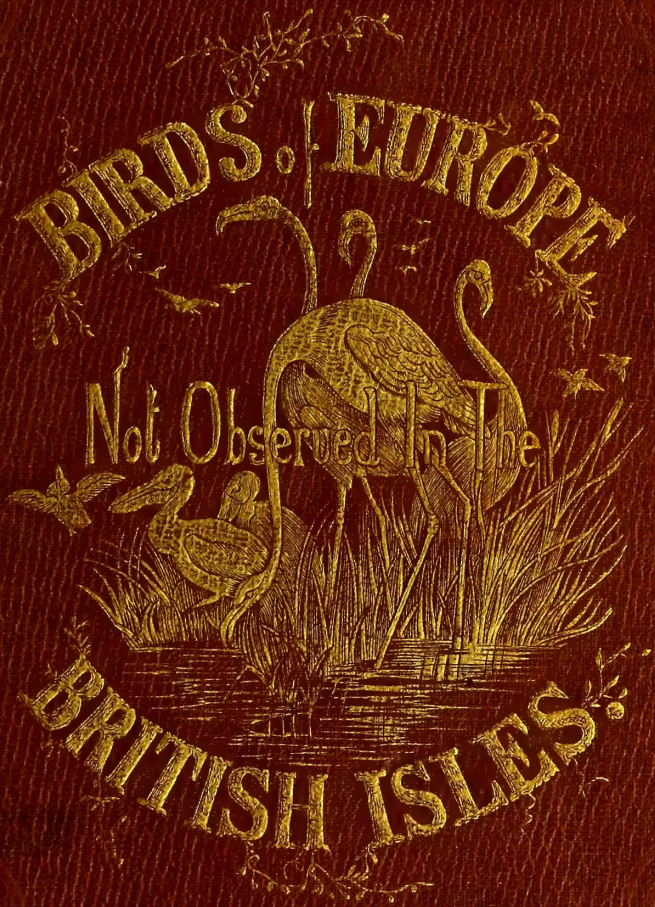

BIRDS of EUROPE
Not Observed In The
BRITISH ISLES

SHOUT
SHARE
IT

SMITHSONIAN INSTITUTION LIBRARIES

SMITHSONIAN INSTITUTION LIBRARIES

SOCIABLE VULTURE.

A

HISTORY

OF THE

BIRDS OF EUROPE,

NOT OBSERVED IN THE BRITISH ISLES.

BY CHARLES ROBERT BREE, ESQ., M.D.

VOL. I.

"Join voices all ye living souls; ye birds
That singing up to heaven-gate ascend
Bear on your wings and in your notes His praise."
MILTON'S PARADISE LOST.

LONDON:
GROOMBRIDGE AND SONS, PATERNOSTER ROW.
M DCCC LIX.

QL
674
B83
1859
v.1
BIRDRB

CONTENTS

OF

THE FIRST VOLUME.

	PAGE
Sociable Vulture	1
Cinereous Vulture	7
Bearded Vulture	12
Norwegian Jer-Falcon	21
Saker Falcon	31
Lanner Falcon	37
Eleonora Falcon	44
Lesser Kestrel	48
Little Red-billed Hawk	51
Pale-chested Harrier	55
Imperial Eagle	58
Bonelli's Eagle	62
Booted Eagle	67
Tawny Eagle	71
Pallas's Sea Eagle	75
Bald Eagle	80
Short-toed Eagle	87
Long-legged Buzzard	93
African Buzzard	97
Black Kite	101
Arabian Kite	105
Black-winged Kite	108
Ural Owl	114

PAGE

Lap Owl 118
Least European Sparrow Owl 124
Egyptian Eared Owl 130
Black Jackdaw 136
Azure-winged Magpie 140
Black-headed Jay 144
Siberian Jay 149
Alpine Chough 153
Sardinian Starling 156
Great Grey Shrike 159
Lesser Grey Shrike 165
Masked Shrike 168
Hooded Shrike 171
White-collared Flycatcher 175
Red-breasted Flycatcher 179
Red-breasted Thrush 182
Black-throated Thrush 187
Naumann's Thrush 192
Pale Thrush 195
Blue Thrush 199
Dusky Ixos 203

BIRDS OF EUROPE,

NOT OBSERVED IN THE BRITISH ISLES.

Order I.—RAPACES.

Division I.—Rapaces—Diurnæ.

Family I.—VULTURIDÆ.

Genus I.—Vultur. *(Illiger.)*

Generic Characters.—Beak large, strong, and curved only at the end; nostrils opening crosswise; eyes even with the head; head and neck without feathers, or only partially covered; a collar of down at base of neck. Vertebræ fifteen.

SOCIABLE VULTURE.

Vultur auricularis.

Vultur auricularis,	Daudin. Cuvier. Temminck.
" "	Schinz. Schlegel. Degland.
" *nubicus,*	Smith.
Vautour Ægypius,	Savigny.
" *oricou,*	Le Vaillant.

Specific Characters.—Head thick, rounded; cutaneous folds below the auditory opening in the adults; legs covered only with down; the internal toe equal nearly to half the middle. Length four feet and upwards.—DEGLAND.

THIS bird is placed among those of Europe by M. Temminck, and after him by Schlegel and Degland. In deference to such high authorities, I introduce it into this work. Serious doubts have, however, been raised against the position thus assigned to it by these eminent naturalists.

M. Temminck states that it occurs in Greece, particularly in the neighbourhood of Athens. M. Le Comte Von Der Mühle, the author of a work upon the birds observed by him during a five years residence in Greece, says, however, that he never observed it there, and he expresses an opinion that the skins which have been received from that country, have really been obtained in Egypt. Lindermayer also observes that he has not found it in Greece. Bonaparte leaves it out of the European list, and Dr. Rüppell seems to think the species as European is purely nominal. On the other hand M. Crespon, the author of "La Faune Meridionale de la France," has introduced it into his list, on the authority of M. Barthelemy, Curator of the Museum of Marseilles, who asserts that the specimen in that establishment was killed in the mountains of Provence. From some valuable notes upon the raptorial birds, with which I have been kindly favoured by J. H. Gurney, Esq., of Catton, Norfolk, whose great knowledge of this section of ornithology is well known, and I may add, equally well illustrated in his magnificent collection in the Norwich Museum, I extract the following:—

"I hold this species to be identical with *V. nubicus* of Smith, and *V. Ægyptius* of Temminck. I believe

it certainly has occurred in Europe, especially in Greece. The Norwich Museum contains a specimen which I procured from M. Verreaux, who assured me that it was killed in that country."

In the "Revue de Zoologie" for 1854, M. Jaubert, in his remarks upon the rarer birds of Central France, observes:—"The Oricou was killed twenty-one years ago at Crau; after having ornamented the collection of the town for many years, this bird was given to me, but, alas! I only got its precious relics. Another magnificent specimen was brought alive from Spain, but from what place I do not exactly know. After a residence for some years at Marseilles, it is now (1854) in the Zoological Gardens at Antwerp. The specimen of M. G. Cara, said to have been obtained at Cagliary, was singularly enough confounded by that naturalist together with *V. Kolbii*, with *G. fulvus*.

The Oricou, of which only the above two captures are recorded in Europe, ought to be considered a very rare bird; but it must be remembered that very few Vultures of any species are killed in Europe; the pursuit of these birds is one of the most dangerous kind, and hence few people, except naturalists, are animated by that enthusiasm which is ever regardless of personal risk in the pursuit of scientific objects."

The Sociable Vulture is a genuine native of Africa, where it lives in flocks, feeding upon the dead carcases of the large animals which inhabit that country. We are indebted for all we know about it to M. Le Vaillant, by whom it was discovered in the Namaqua district of Southern Africa, in 1790; and fully described by him in his "Histoire Naturelle des Oiseaux d'Afrique."

The following account of its habits is collected from the observations of Le Vaillant:—

This gigantic species, (it measures upwards of ten feet from tip to tip of wings,) is an object evidently designed for the purpose of cleansing the soil of Africa from the putrid bodies of elephants, hippopotami, rhinoceroses, and giraffes. It haunts the caverns of rocks, and is altogether a mountain bird.

M. Le Vaillant had killed three zebras, and to carry them away he ran to fetch his waggon, which was scarcely three miles off; on his return he found nothing but the bones of the zebras, upon which some hundreds of Vultures had gorged themselves. One day he killed a gazelle; left it stretched upon the ground, and hid himself among the bushes. First there came to the spot some crows, which flew above the gazelle croaking; six minutes afterwards some kites and buzzards appeared, then almost immediately raising his eyes, Le Vaillant saw at an immense height a flock of Vultures (the Oricou) gradually descending in concentric circles, and seeming to come out of the vault of heaven. They flew down upon the gazelle, and soon there were hundreds of them; a shot put them to flight, and they disappeared as they came. Thus the smaller birds of prey first gave warning to the raptores of larger size; these in their turn warned the brigands of a superior order, and all took a share in the benefit of their communications, which were more rapid than our telegraphic despatches. The prey having been torn in pieces by the Vultures, the kites were able to seize some pieces, and the small fragments left upon the carcase of the victim were precious dainties for the crows, who had given the warning.

The Vultures themselves share the spoils of the lion and tiger. When one of these feline animals devours its prey, the Oricou keeps in the neighbourhood, and

VULTUR.

EGG OF THE SOCIABLE VULTURE.

I HAVE much pleasure in giving this month a drawing of the egg of the Sociable Vulture, which I was unable to do in Part I., when the bird was figured. This egg is the produce of a bird now in the possession of J. H. Gurney, Esq., M.P., of Catton Hall, Norfolk, who has with his usual kindness sent me a drawing of it, made by Mr. Reeve, of the Norwich Museum.

This Vulture was formerly in the Surrey Zoological Gardens. The bird possesses the usual fleshy folds on the neck. The egg is white, with rufous markings clustered round the thick end. The longitudinal circumference is nine inches and a quarter, the transverse eight inches and one-eighth. It was laid February 15th., 1859. I must again repeat my thanks to Mr. Gurney, for this very interesting contribution to oology.

waits respectfully till he has finished his repast; when he has gone they clear the bones of what the mammal had disdained to touch. Le Vaillant saw large flocks of them perched at sunrise on the precipitous entrances to their abodes, and sometimes the rocky region was marked by a continuous chain of these birds. Their tails are worn down by friction against their craggy haunts, and by the soil of the plains, in consequence of the laborious efforts which they make to raise themselves into the air; when once on the wing, however, their flight is grand and powerful.

The nest, which is very large, and formed of boughs, is made among the most inaccessible rocks. It is rarely approachable by man, and when it is reached, the abode is sickening to the sight and smell. It lays two, rarely three, eggs, which are white without markings. M. Le Vaillant did not hesitate to eat them, a part of his zoological performances I by no means envy.

I take the following description from M. Degland's admirable "Catalogue analytique et raisonné des Oiseaux observés en Europe," a work to which I shall be much indebted in the following pages.

Adult male and female; head covered with a thinly scattered blackish brown down; the greater part of the neck naked, and furnished upon the sides with longitudinal folds and reticulations, which mount upwards towards the orifice of the ear, below and behind to a kind of half collar or ruff, composed of rather short, very stiff, broad and rounded feathers; half of the head and neck flesh-coloured, more or less inclined to a violet shade; region of the crop covered with a smooth, close, and silky down; the rest of the body dark brown or blackish, darker above than below, with a white shade upon the back; feathers of the

lower part of the body long, acuminated, and curved like the blade of a sword. Thighs and legs covered with white and brown down; tail tapering; beak ochre yellow at the base, brownish at the tip; iris chesnut brown; feet ashy yellow.

Young birds, of a lighter tint, with the feathers of the upper part of the body having a narrow border of reddish grey, those of the under part not curved, deeply bordered with reddish grey, not very near together, allowing the white down to be perceived; head and neck covered with a tufted brown down; thighs and legs covered also with brown down, having some worn-out or broken feathers behind; beak black; feet ash-coloured.

This bird is not figured in Gould's "Birds of Europe."

There is a living specimen in the Gardens of the London Zoological Society.

RAPACES—DIURNÆ.

Family I.—VULTURIDÆ.

Genus I.—VULTUR.

CINEREOUS VULTURE.

Vultur cinereus.

Vultur cinereus,	LINNÆUS. GMELIN. LATHAM.
" "	TEMMINCK. SCHLEGEL. DEGLAND.
" "	GOULD.
" *Bengalensis,*	LATHAM, (*young.*)
Ægypius Niger,	SAVIGNY.
Gyps cinereus,	CH. BONAPARTE.
Vautour ou Grand vautour,	BUFFON.
Vautour arrian, and V. cendre,	OF THE FRENCH.
Grauer Geier.	OF THE GERMANS.
Avoltoio Lepraiolo,	OF THE ITALIANS.

Specific Characters.—Head thick and large; nostrils rounded; legs covered with feathers. Internal toe much shorter than half the middle toe; twelve quills in the tail. Length three feet six inches.—DEGLAND.

THE Cinereous Vulture is stated by M. Temminck to live solely among the vast forests of Hungary, the Tyrol, the Pyrenees, the middle of Spain, and in Italy. In all other places its appearance is accidental. It

has been observed in Russia, in Provence and Languedoc, and in Sardinia. M. Schinz says that he did not find it in Switzerland; neither has it been found there by M. Tscharner, who lives near Berne. It is found rarely in Germany and Dalmatia. A large flock, according to M. Degland, was observed to pass over the environs of Angers in October 1839; a larger number having been observed at the same place and season two years before. Both flocks appeared to come from the northward, and to wend their way towards the Pyrenees. It occurs in India and Egypt, but according to Dr. Rüppell, it is not found in Africa.

Like most of its tribe, the Cinereous Vulture feeds upon carrion. M. Temminck says that it does so exclusively, and that it flies away in fear from the smallest live animal. Bechstein, on the contrary, says that it attacks in the winter, hares, sheep, goats, and even deer. It can detect its food from a great distance, probably by its acute vision equally with its supposed exalted sense of smell.

It builds among the most inaccessible rocks. The nest is of large size, and made of branches, boughs, and small sticks. It lays two large eggs, pointed alike at both ends; of a dirty white, without spots, and a rough surface.—(Degland.) This description is taken from an egg found in the Hautes Pyrenees, which is in the collection of M. Moque Tandon.

In the "Revue de Zoologie," for 1854, M. Jaubert remarks:—"The *V. arrian* breeds in small numbers in the Pyrenees, where it lives in isolated pairs, never mingling at that epoch with the flocks of Griffons. Its eggs, collected personally by Captain Locke, are very large, with a rough and hard surface, of a more or less pure white." M. Temminck observes that there is

no well-marked difference between the specimens of this bird from India and Egypt and those of Europe.

It does not appear to be either a cowardly or a stupid bird. M. Degland mentions an instance in which one in confinement answered to the voice of its master, and defended itself with courage against some small dogs which tried to bite it. M. Bouteille also, in a note to his "Ornithology of the Dauphine," relates an instance of one of those birds, which in confinement became so familiar as to call for its food. It however once escaped into his establishment and seriously wounded two men.

It has been considered by Mr. Bennett and Mr. Gould that the Cinereous Vulture deviates in structure from the true Vultures, and that it might form with *V. auricularis* and *V. pondicerianus* a distinct genus. These three birds have the neck only partially bare, their ears more open, the claws more curved, and their beak more powerful. The figure in Gould is very fine and exact.

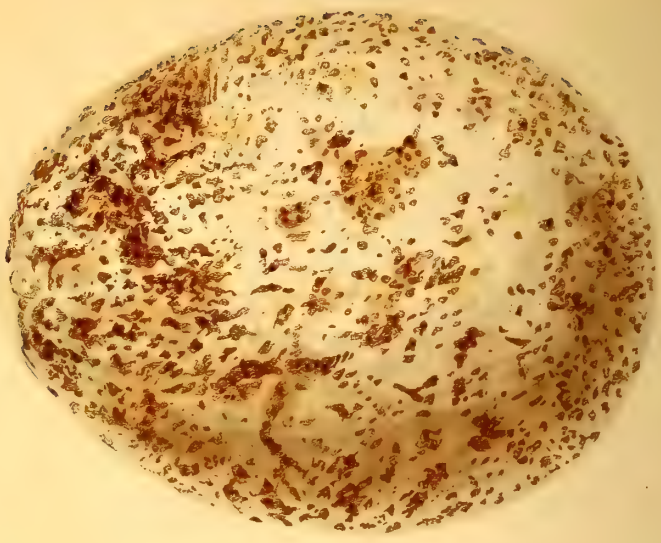
The male and female have all the plumage dark brown or blackish. Top of the head covered with a tufted and woolly down; part of the head and neck naked, and of a livid bluish colour; feathers long and curved, re-ascending obliquely from the inferior part of the side of the neck towards the nape; other feathers loose and light, covering the insertion of the wings. Cere and sides of the posterior half of the beak flesh-coloured, with a violet tinge; tip of the beak and claws black; iris brown. Feet covered with feathers above, the remainder naked and bluish, like the naked part of the head and neck, but of a clearer tint.

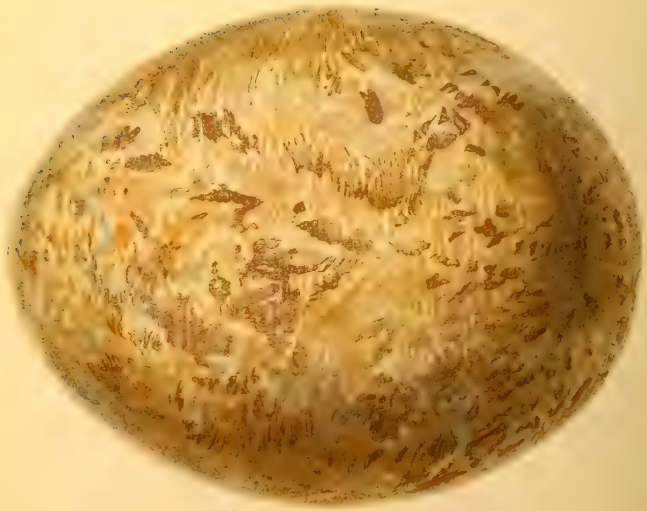
Young bird, brown, inclining to fawn-coloured; centre of the feathers darker, the head and neck covered with a bluish grey down.—(Degland.)

In the natural order of arrangement the *Vultur Kolbii* of Daudin, *Le Vautour Chassefiente* of Temminck, would follow the bird just described. M. Temminck considered that the species was quite distinct, and always to be distinguished, at all ages, by the form of the feathers of the wings and the superior parts, which are all rounded at the end,—whilst these same feathers in the Griffon Vulture are long and pointed; the ruff is also not so long or so thick. The general colours of the plumage is often that of clear 'café au lait,' and according to age varied into a light or dark brown. The adult is nearly entirely of a whitish dove-colour, whilst the plumage of the adult Griffon is of a uniform light brown. The crop of a dark brown; head and neck covered with a thick down. Total length, four feet.

Later writers, however, have considered that the *Chassefiente* of M. Temminck, is only a variety of the Griffon.

Dr. Rüppell, in reviewing the species of the genus *Vultur* of modern Ornithologists, in the "Annales des Sciences Naturelles," and the "Bulletin des Sciences Naturelles," separates the *Chassefiente* from *V. Kolbii*, and states that the latter is not found in Europe. Schlegel does not admit *V. Kolbii*, but notices what he calls a race, or permanent variety of the Griffon, under the name of *Vultur fulvus occidentalis;* while Degland states his positive conviction that the differences given by Temminck, are those of age only; that the supposed *V. Kolbii*, said to have been killed in Sardinia, and sent to M. Hardy, of Dieppe, by Temminck himself, is a veritable adult *Vultur Griffon;* and that he has seen other skins in Paris, upon which a high price was fixed, in which he could find no characters





essentially different from those of the *V. Griffon* he had received from Bayonne and de Bagnères-de-Bigorre, or which he had examined in various collections. Under these circumstances we shall omit the *V. Kolbii* from our list of European Vultures.

The figure of the egg of this species is copied from several given by Thienemann. It is an extreme variety, containing much more colour than usual. It will be seen that Degland states the egg to be "a dirty white without spots." This only proves that the egg varies considerably. Degland's description might equally be applied to the egg of *V. fulvus*.

RAPACES—DIURNÆ.

Family I.—VULTURIDÆ.

Genus II.—GYPAETOS. *(Storr.)*

Generic Characters.—Head and neck covered with feathers; claws slightly curved; beak very strong, upper mandible elevated and curved at the end; nostrils oval. Feet short, the three anterior toes united at their base by a membrane; middle toe very long. Wings long; first quill shorter than the second, the third longest. Vertebræ thirteen.

BEARDED VULTURE.

Gypaetos barbatus.

Gypaëtus barbatus,	CUVIER. TEMMINCK.
" "	GOULD. SCHINZ.
" "	BONAPARTE.
" *leucocephalus et melanocephalus,*	MEYER AND WOLFF.
Vultur barbatus,	LINNÆUS.
" *niger et aureus,*	BRISSON.
" *barbarus et Falco barbarus,*	GMELIN.
" *barbarus et barbatus,*	LATHAM.
Phene ossifraga,	SAVIGNY. VIEILLOT.
" "	LESSON.
Lœmmergeier or *Bartalder,*	OF THE GERMANS.
Avoltoio barbutio,	OF THE ITALIANS.
Gypaëte barbu,	OF THE FRENCH.

Specific Characters.—Base of beak above as well as below covered with stiff hairs. Length four feet seven inches.—DEGLAND.

The Lammergeyer, or Lamb-slayer, is becoming one of the rarest birds of Europe, though at one time it was found in plenty by the chasseurs of the Swiss mountains and the Tyrol. Its predatory habits mark it as an object of destruction, and in obedience to what appears a natural law, like the Red Indian, it disappears before the march of civilization. Its home is in the wildest and most lonely parts of the grand mountains in the Indian and European continents. The traveller from the Himalayas meets with it again in the dreary Caucasus, as well as in the rocky heights of the Tyrol, or the gloomy grandeur of the snow-capped Alps. It is found in Egypt, in Syria, in Algeria, at the Cape of Good Hope, and in Siberia. It is rarest in Switzerland and Germany, though still not uncommon in Sardinia. Occasionally it is found in France and Spain.

This bird forms the natural passage from the Vultures to the Falcons. Like the latter it feeds upon living prey, and the neck is covered with feathers. On the other hand, its alliance with the Vultures is strong and decided—in the form of its beak, and in the disproportionate strength of its talons to the size of the body. It also has its eyes even with the head, its wings are extended when at rest, and the crop when full projects at the bottom of the neck.

Its principal articles of food are lambs, goats, the chamois, and even deer, possession of which it obtains by driving them over precipices, and then feeding upon the dead bodies where they lie. It has been said to attack man himself when asleep, which is not improbable as it is a fearless bird in its own wilds.

The African traveller, Bruce, has given a graphic and amusing account of this bird in the fifth volume

of his "Travels in Egypt, Arabia, Abyssinia, and Nubia." "Upon the highest top of the mountain Lamalmon, while my servants were refreshing themselves from that toilsome rugged ascent, and enjoying the pleasure of a most delightful climate, eating their dinner in the outer air, with several large dishes of boiled goat's flesh before them, this enemy (the Vulture, as he turned out to be,) appeared suddenly; he did not stoop rapidly from a height, but came flying slowly along the ground, and sat down close to the meat, within the ring the men had made round it. A great shout, or rather cry of distress, called me to the place. I saw the Vulture stand for a minute, as if to recollect himself, while the servants ran for their lances and shields. I walked up as nearly to him as I had time to do. His attention was fully fixed upon the flesh. I saw him put his foot into the pan, where was a large piece in water, preparing for boiling, but finding the smart which he had not expected, he withdrew it, and forsook the piece which he held. There were two large pieces, a leg and a shoulder, lying upon a wooden platter, and into these he trussed both his claws and carried them off; but I thought he looked wistfully at the large piece which remained in the warm water. Away he went slowly along the ground, as he had come. The face of the cliff over which criminals are thrown took him from our sight. The Mahometans that drove the asses, who had, as we have already observed, in the course of the journey suffered from the hyæna, were much alarmed, and assured me of his return." And return he did after a short time, when Bruce shot him.

M. Crespon also has the following anecdote:—"A living Gypaetos, which I had for some years, was

always irritated at the sight of children. I once left the lid of its cage in my garden open. Watching the moment when no one saw it, it threw itself on one of my nieces, two years and a half old. Having seized her by the shoulders, it threw her down on the ground. Fortunately her cries warned me of the danger she was in, and I hastened to her assistance. The child only suffered from fear and a torn frock. This same bird shows very little courage towards the other birds of prey which reside with it."

We copy the following excellent description of the habits of this bird from "Tschudi's Sketches of Nature in the high Alps:"—"Soon the pilgrim fancies himself really alone with his labours; with the grey rocks and cold fields of ice, where death has established its eternal sway. Beneath him spread the stony deserts; in the distance lie the lands of human cultivation bathed in blue mist; around are the wastes of Schratten, and jagged peaks, the naked thrones of the icy storm. But hark! far overhead resounds from a distance a shrill defiant 'pui! pui!' He looks around him and discerns a moving speck in the dim blue sky. It floats nearer, but its wings scarcely beat. Soon it comes down with a rustling sound, and see! the Royal Vulture of the high Alps is wheeling round him with outspread pinions. Descending still lower it surveys the depths below; and then rising again impatiently to the upper air, flies in a straight line high over the icy summits, which again hide it from view; while its hungry cry resounds for some minutes from beyond the crests of far-away mountains, till again it soars to meet the rising sun.

In earlier times this giant among European birds of prey inhabited all the districts of our higher Alps;

but it has now greatly diminished in numbers, building permanent nests only in the mountains of Tessin, the Grisons, the Vallais, Uri, and Berne. On the other mountains its appearance is rare, and in most cases solitary. The last seen in Unterwalden was shot on the Abzeller mountain, on September 24th., 1851, by Michael Sigrist. An old Vulture was for many years observed to perch regularly, at certain seasons, on a huge block of stone in Grindelwald Glacier. The position was quite inaccessible, and beyond the reach of rifle-shot.

The internal structure of the Lammergeyer is very peculiar: the muscles of the breast are of extraordinary size and strength; the long bones hollow as with other birds, become filled by the action of the lungs with air, warmer, and therefore specifically lighter than the surrounding atmosphere, and the bird is thus enabled to soar high into the air without any great exertion. The vigour of its digestive organs is most curious. The gastric juice in a short time decomposes the largest bones and the horny hoofs of cows or calves, continuing its operations even after the death of the animal.

The contents of the stomachs of Lammergeyers which have been opened after death, have created no little astonishment, and surpass all that has ever been related of the voracity and digestive powers of smaller European birds of prey. One contained five bullock's ribs, two inches thick, and from six to nine inches long, a lump of hair, and the leg of a young goat, from the knee to the foot. In one killed by the celebrated naturalist Dr. Schinz, the stomach contained the hip bone of a cow, the skin and fore quarters of a chamois, many smaller bones, some hair, and a heathcock's claws.

Its habits when at liberty have not been sufficiently

observed as yet. Small game such as foxes, lambs, or marmots, it will pounce down upon direct and carry them off. Larger animals it endeavours to drive over precipices, and occasionally it will try this with huntsmen who are in dangerous positions, and who have declared that the noise, together with the strength and rapid motion of the enormous wings, have exerted a certain magical and almost irresistible influence over them. The Lammergeyer is not always successful in securing its prey. Near the so-called "dragon hole," not far from Alpnach, a Vulture seized upon a live fox, and carried it off into the air. The fox, however, stretching out his head, succeeded in seizing his captor by the throat, and biting him through. The Vulture fell dead to the earth, and reynard went home well satisfied with his exploit.

The fact of these birds seizing upon children has often been doubted, but there are many well-authenticated stories of such catastrophes. In Appenzall one carried off a child before the eyes of its parents and neighbours. On the Silber Alpan, Schweitz, a Vulture attacked a shepherd boy, began tearing him in pieces, and finally precipitated him into an abyss before assistance arrived. In the Bernere Oberland a child of three years old, called Anna Zurbuchen, was carried off, but rescued on the rocks without having been much injured. She afterwards went by the name of the Geier-Anni, and was living at an advanced age a few years ago.

These birds lift up great weights; in the Grisons one took off a lamb weighing fifteen pounds. Another carried away a butcher's dog; and another instance is recorded of a goat being borne away. A Lammergeyer seldom attacks grown people, never unless its nest is

disturbed or the man is in a dangerous position. Two will often attack a man whom they see hanging helpless upon a rock; and on the other hand one will venture single-handed to assail two huntsmen who are asleep.

The nest of the Lammergeyer is not easy to take, and the task is dangerous, as they always build in steep rocks. The renowned chamois hunter Joseph Scherrer, of Ammon, climbed barefoot once, gun in hand, to a nest which he suspected to contain some young. Before he reached it the male bird flew out; Scherrer shot him through, and re-loading his gun proceeded. But when he got near the nest the female flew out upon him, making a terrible noise, and fixing her talons in his hips, and beating him with her wings, endeavoured to drive him over the precipice. His wonderful presence of mind saved him; with the disengaged hand he pointed the gun to the bird's breast, and pressing the trigger with his naked foot discharged it; the Vulture fell dead.

The Lammergeyer builds in places equally inaccessible to naturalists and bullets. Its nest is ingenious; the sub-stratum is formed of a mass of straw, fern, and stalks, lying upon a number of sticks and branches, laid crossways one upon another; the nest, which rests upon the under layer, is composed of branches woven into the shape of a wreath, and lined with down and moss, and the contents of this part alone would fill the largest hay cloth. Very early in the year the female lays three or four large white eggs, spotted with brown, of which only two generally are hatched. The young birds are covered with a whitish down, and their huge ill-proportioned crops and maws give them an ugly and shapeless appearance."

We have been favoured by Mr. J. H. Gurney, with

the following notes of this bird:—"Specimens from Algeria and the Caucasus are identical with the European. Those from Abyssinia differ from the above in having the lower part of the tarsus bare of feathers: this race is called *G. meridionalis*, and is said to be also found in Arabia and the Cape of Good Hope. Specimens from the Himalaya mountains do not differ from those of Europe, Algeria, and the Caucasus, when adult, but the young birds in the Himalaya have the peculiarity of a row of small feathers running down the outer side of the middle toe, half way down the first joint. This disappears when the bird becomes adult.

I do not know whether this peculiarity also occurs in specimens from the Altaic range, and from China. In the Himalayas and Abyssinia it appears to be much more familiar in its habits than in Europe, approaching some of the Vultures in this respect, probably from being less persecuted."

The adult male and female have the body above of a greyish brown, with a white or yellow line upon the middle of a great number of the feathers; lower part of the body white, tinged with a more or less lively red; top of the head white, bounded at the back by a bluish line, which surrounds the eyes, and goes on gradually increasing till it is lost among the hair which covers the cere and the nostrils; neck of a very light red. Tail feathers ash brown, with the shafts white; tail very much graduated. Beak black; iris white, inclined to yellow; free edge of the eyelids red; toes livid. The female has the hairs of the chin and the tibial feathers shorter than the male and stronger.

Young bird, first year dark brown, approaching to black on the neck, and to reddish grey on the chest

and abdomen. After the first moult the colour of the feathers becomes lighter, the under part of the body redder, and there are spots of the same colour on the mantle. The red becomes brighter after and paler before each moult, and sometimes more or less white when it assumes its adult plumage. It only arrives at its perfect plumage at six years old, at least in captivity. It is born covered with brown down from head to foot.

The figure of the egg of this bird is from a drawing of a specimen in the British Museum. We beg to thank Dr. Gray for the facilities he has afforded us in obtaining drawings of those specimens of birds and eggs which we required.

I have much pleasure in acknowledging the receipt of a long letter from Professor Moquin-Tandon, of the Facultè de Médecine de Paris, in which that distinguished naturalist has in the kindest terms offered to assist me in the prosecution of this work. I beg to assure M. Moquin-Tandon that I highly appreciate the value of this offer—and for the genuine spirit of philosophical liberality with which he responded to my request.

NORWEGIAN JER-FALCON.

RAPACES — DIURNÆ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Generic Characters.—Head and neck covered with feathers; beak hooked and generally curved from its base; cere coloured, more or less hairy at its base; nostrils lateral, rounded, or ovoid. Tarsi covered with feathers, or with glossy scales. Toes four; external toe often united at its base by a membrane to the middle toe; claws pointed, very much hooked, mobile and retractile. Vertebræ twelve.

Sub-genus—FALCO. *(Bechstein.)*

Sub-generic Characters.—Beak short, and bent from its base; upper mandible with one, rarely two teeth; legs robust; toes strong, long, and armed with curved and sharp claws; tarsi short; wings long, first and third quill feathers of equal length, second quill feather the longest.

NORWEGIAN JER-FALCON.

Falco Gyr-falco Norvegicus.

Falco Gyr-falco,	SCHLEGEL. REVUE, 1844.
" *Lanarius,*	LINNÆUS; Faun. Suec., p. 22, No. 62.

Le Faucon d'Islande,	Brisson; i., pl. 31, p. 373.
Le Gerfaut de Norvège,	Buffon; pl. Enl. 462, *(young.)* Hist. Nat. des Oiseaux, i., p. 241, pl. 13, *(adult.)*
Le Gerfaut,	Schlegel et Verster; Traité de Fauconnerie, *(fig. female jun., male adult.)*
Falco Gyr-falco Norvegicus,	Wolley.

Specific Characters.—Upper half of the tarsi clothed, lower half and toes of a greenish yellow; moustache very small; groundwork of plumage bluish brown above, white below; spotted on the belly and striped upon the sides and beneath the tail, in the adult. While young it resembles the young of the Greenland and Iceland Falcons, but is smaller.—Degland.

Measurement. Male—From tip of beak to end of tail twenty inches, (Paris.) Expanse of wings twelve inches and a half to thirteen inches and a quarter. Tail seven inches two lines to seven inches eight lines. Middle toe, without claw, one inch ten lines. Tarsus two inches three lines. Female—About one tenth larger.—Schlegel.

The bird with which we commence our description of the important and interesting family of *Falconidæ,* has been the subject of much controversy among ornithologists. Some authors maintain there is only one genuine species of Jer-Falcon. Others, and I may say the greater number of the naturalists of the present day, admit there are two—while the opinion has been rapidly gaining ground of late years, that there are no less than three.

The subject is one of considerable interest in Natural History, and although it forms no part of the plan of this work to enter into controversial discussions, it is no less the duty of those who conduct it, to lay before

their readers a brief statement of the case as it now stands, and the reasons which have induced me to include the bird at the head of this description, among those which are observed in Europe; and as therefore distinct from the other two species which have occurred in England. Nay, I believe, strictly speaking, the Jer-Falcon now under discussion has been killed in England; but as the authors of our British works have only described and figured one bird under the general name of *F. Islandicus*, I have thought it better to give a figure of the *F. Gyr-falco* of Schlegel, and to state the reasons of that eminent naturalist for claiming specific distinction for this bird.

When Gould published his work on the "Birds of Europe," in 1837, he alluded to the statements made by Falconers who bring over trained Falcons for sale to this country, that there was a decided difference between the Norwegian and Iceland birds, and he asks the question—are there two species? Temminck had previously described one species only, *F. Islandicus*, and had given *Falco Islandicus Candicans* of Latham, Gmelin, and Meyer, as the female; while he confounded *Falco Sacer*, the bird next to be described, with the *Falco Gyr-falco* of authors, which he considered the young of *F. Islandicus*.

A year after Mr. Gould's work appeared, Mr. Hancock sent a memoir to the "Annals and Magazine of Natural History," in which he described two Jer-Falcons as existing among the English specimens, under the name of *F. Islandicus;* and to these birds he gave the names of *Falco Greenlandicus* and *Falco Islandicus;* the former being the light-coloured species, or, as Mr. H. subsequently described it—"having white feathers with dark markings"—the latter the darker

bird—having "dark feathers with light markings;" and these differences, in the last paper referred to, Mr. Hancock says exist at all ages, and are permanent and specific distinctions.

In 1844 Schlegel published his "Revue Critique des Oiseaux d'Europe," and subsequently his splendid "Traité de Fauconnerie," in which he describes and in the latter illustrates with beautiful drawings by Wolff, three distinct species of Jer-Falcon, under the names of *Falco Candicans*, (*Greenlandicus* of Hancock;) *Falco Islandicus*, (*Islandicus* of Hancock;) and *Falco Gyr-falco*, the subject of the present notice.

In 1854 Mr. Hancock published a second paper in the "Annals," in which he corrects some important mistakes he had made in his first, regarding the plumage of the whiter species when young. Mr. H. having had an opportunity of examining upwards of one hundred and fifty specimens, is now quite convinced that the Iceland and Greenland Falcons are distinct species or races; that the Greenland Falcon is never dark like the Iceland, however young; and that the adult is distinguished more by the difference of shape in the markings, than by the colour.

This, I believe, is the position in which this interesting discussion now stands. I will not offer any further observations about the Greenland and Iceland birds, but proceed to lay before my readers a history of, and Schlegel's description of the third species; the Norwegian Jer-Falcon.

Buffon gives two figures of this bird; one of a young subject under the name of Norwegian Falcon, and the adult simply as Ger-Falcon. Linnæus appears to describe the female of adult age under the name of *Rusticolus*, and the young male as *Lanarius*. His

diagnoses are *Falco rusticolus.—F. cera palpebris pedibusque luteis, corpore cinereo alboque undulato, collari albo. Falco lanarius.—F. cera lutea pedibus rostroque cæruleis, corpore subtus, maculis nigris longitudinalibus.*

The name of Jer-Falcon used to be applied indiscriminately to all the three races or species. Schlegel proposes to confine it entirely to the true Jer, the Norway species. The name is supposed by some to be derived from *Gyrau,* because the bird rises in circles as it pursues its prey. About the twelfth century these birds were brought, for the purposes of Falconry, from the North of Europe and the Low Countries, to all other European nations, even to the Levant.

Schlegel suggests that those ancient Falconers may have given the name they now bear, as in Holland there are several words composed in the same manner, as *Gier,* derived from the verb *gieren,* which in Dutch has many meanings, as "uttering shrill cries," "clawing or seizing objects," "flying or throwing oneself swiftly from side to side." In England the name used is Jer-Falcon, or simply Jer.

The true Ger-Falcon has only been observed at present in the season of propagation on the Norwegian Alps. This is evidently the species which F. Boie met with in 1817, when travelling in Norway, and of which he relates that it leaves the mountains in winter, and accompanies the Ptarmigans, which are its principal food, in their migrations to the sea-shore. The Norwegians assured M. Boie that neither white or whitish Falcons exist in their country, and we cannot therefore doubt but that the great Falcons of this country belong to this species of Ger-Falcon. M. Boie further adds that the young of the year leave the mountains

in winter, and then visit the other parts of Sweden towards the south. The Falconers establish themselves always on the Dovrefeld, but they only take young birds of the year. In Holland, also, the Falconers take from time to time specimens of the young bird; from which we may conclude with Nillson, that the adults never go far from their habitual dwellings. Very little is known about the habits and propagation of this bird in its wild state.

Mr. Wolley, Jun., writing in 1856, says in his "Catalogue of Eggs," sold by Mr. Stevens:—"*Falco Gyr-falco* of Schlegel is the true Gyr-Falcon at present so little generally known in England, though Schlegel says the young have occurred here, as they do constantly in Holland. In immature plumage the bird is scarcely to be distinguished from the immature Icelanders. Whether to be considered a distinct species or not, this Lapland, and, probably Siberian form, must be carefully separated from the Greenland and Iceland ones, which are so well known through the researches of Mr. Hancock. Schlegel, writing three or four years ago, says that nothing is known of its nidification; these eggs are therefore probably the first that have been seen by naturalists. Mr. Wolley, in 1854 and 1855, had the pleasure of taking four nests "with his own hands." It breeds in the most remote districts, commencing whilst the winter snow is still undiminished. The adult birds seem to confine themselves to the far north of the country, and they are the only species or race of the Great Falcon which occurs in Lapland."

Writing again in 1858, the same able naturalist further observes:—"In Scandinavia the forms found in Greenland and Iceland never seem to occur. There

can be little doubt that young individuals, which are very difficult to distinguish from Icelanders, occasionally visit Britain, as they do the parallel countries on the continent. Last year I obtained an egg that looks like a Gyr-Falcon's, from a nest in a tree, for the first time from such a situation."

Mr. Wolley remarks that it would be convenient to call this bird *Falco Gyr-falco Norvegicus*, and as I quite agree with him, I have adopted the suggestion.

In captivity it differs a good deal from the white and Icelandic birds. It is obstinate, revengeful, and sometimes attacks Falcons of any species, or darts upon its comrade instead of its game.

Mr. Gurney observes:—"Of the three Jer-Falcons I look upon the first, the white one, as certainly distinct. I think *F. Islandicus* and *Gyr-falco* are so alike that it is practically impossible to distinguish them. The average size of specimens killed in Iceland certainly appears to be rather larger than the average of those killed in Norway, and a difference is said to exist in the proportion as well as the size of the breast bone; but whether this is really a permanent distinction can only be proved by more dissections than have hitherto taken place. I have a specimen which was killed a few years ago in Scotland, and which I believe was recorded at the time in the "Zoologist," by the person who procured it. I cannot say whether it is *Islandicus* or *Gyr-falco*, but as it is rather a small one, it would probably, if the two were distinct, be a *Gyr-falco*."

With regard to the specific difference between the *Gyr-falco* and *F. Islandicus* M. Schlegel observes:—"When young, the Gyr-Falcon agrees in colour in every respect with the young of the Iceland bird, and the distribution of colours has the same individual varieties

in both. The feet are, when young, of a dirty olive green, approaching to yellow distinctly on the plates covering the toes. The cere and eyelids are generally rather brighter than the feet.

The arrangement of colours of the adult Gyr-Falcon is very agreeable, and resembles those of the full-grown Peregrine, with the exception of the nape, which in the former is ornamented with some white spots; head and region of the ears slate-coloured. The moustache is less marked, and not so dark; the spots of the inferior parts are more decidedly transverse; but the feet are of a greenish colour, and the tints in general offer in their shades more or less sensible modifications. In other respects the Gyr-Falcon is quite different from the Peregrine; the tail is longer, toes shorter, and there are other characters proper to the division to which it belongs, which must prevent the two birds ever being mistaken for each other.

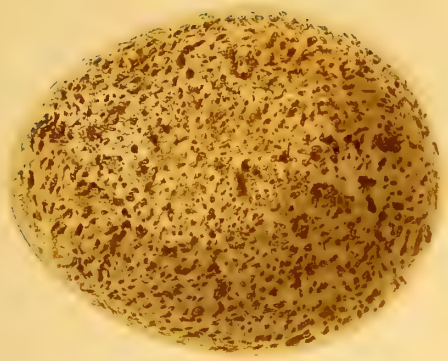
The Gyr-Falcon in its perfect plumage, has the feet of a bright olive green, dirty, rather pale, and approaching to yellow very visibly upon the plates of the toes; the cere and eyelids greenish yellow; beak bluish, colour of horn, passing into black towards the tip, and yellow towards the base. Upper parts and sides of head, posterior and lateral parts of neck bluish grey, black, or slate-colour: this tint is rather deeper towards the centre of each feather. On each side of the nape is a kind of incomplete collar formed by some rows of whitish feathers, each ornamented with a longitudinal blackish spot. All the feathers of the upper surface of the wings and secondaries are the colour of dark slate, approaching to brown: but this tint is broken by the black quill shafts, as well as by the borders and spots of bluish grey with which these feathers are ornamented.

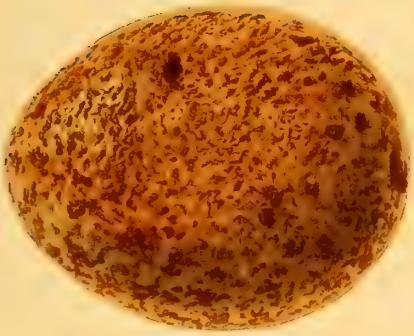
These markings, constantly of a transverse form, are larger and more numerous upon the greater wing coverts and secondaries, where they take the form of bands more or less complete, and are often pointed with brown in the centre. The clear tint of which we have spoken is paler and more dirty upon the upper tail coverts, and it there becomes uppermost, so that the darker tint appears under the form of crescentic-transverse bands. Upon the sides of the rump the clear tint approaches to whitish, and the transverse bands are of a dark grey approaching to violet blue. The ground colour of the primaries approaches strongly to blackish brown; the brownish grey spots of the external barbs of these feathers is lost towards their extremity, which is of a fine glossy white; the spots, on the contrary which are on the inner barbs of the quill feathers, are as pale on the inferior surface of the wings, while on the upper surface they approach to reddish brown, which again changes to white on the anterior feathers. The bright bands of the tail, of which there are from fourteen to fifteen, are of a dirtier tint than the spots above the body, and they are covered distinctly towards the centre with numerous confluent spots of a pale brown. These bands being rather large the dark tints appear upon the tail in the form of narrow streaks, sometimes continuous, sometimes opposite, sometimes in an arch or crescent, and are darker towards the extremity of the tail, which is of a more or less dirty white.

The under surface of the tail is generally paler than the upper. The lesser wing coverts are ornamented with clear spots, sometimes of an orbicular or oval form, and those spots are transverse on the greater wing coverts. The ground colour of the superior parts

of the bird, is of a more or less pure white, ornamented with spots of a dark slate-colour, approaching to brown, which form longitudinal streaks on the chin and throat, and narrow spots in front of the neck and region of the crop, increasing in size towards the extremity of the feathers, where they appear like tears or drops; they are of a deeper tint, and cordate towards the tips of the feathers of the flank, and lozenge-shaped towards the base, approaching the form of the transverse bands more or less perfectly; on the feathers of the legs are transverse spots or bands, closer together. The markings of the under tail coverts are of greater extent, less numerous, lozenge-shaped, and often extended along the quill shafts in the form of fine deep streaks.

The figure of this egg is from the drawing of a specimen in the British Museum.





SAKER FALCON.

RAPACES—DIURNÆ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—FALCO. *(Bechstein.)*

SAKER FALCON.

Falco sacer.

Falco sacer,	SCHLEGEL; Revue, p. 2.
Le sacre,	BUFFON; Nat. His. des Oiseaux,
"	p. 24, pl. 14.
Falco lanarius,	TEMMINCK; Man. i., p. 20.
" "	PALLAS; Zoog., Ex. Syn. i., p. 330.
" "	NAUMANN; T. 23, f. 1, *(fem. ad. mas jun.)*
" "	GOULD; Birds of Europe, pl. 20, *(ad. et jun.)*
" "	SCHLEGEL u SUSEMIHL; Tab. 7, *(ad. et jun.)*
Le sacre,	SCHLEGEL ET VERSTER; Traité de Fauconnerie, fig. ad.

Specific Characters.—Moustache very narrow, hardly existing; tail long; feet bluish; median toe shorter than tarsus; spots white, ovoid and round on the tail.—DEGLAND.

Measurement. Male—Length one foot seven inches six lines. Wings thirteen inches and a half. Tail eight inches. Middle toe one inch eight lines. Female—Length one foot eight or nine inches. Wings fourteen inches and a half. Tail eight inches and three quarters. Middle toe one inch eleven lines to two inches.—TEMMINCK AND SCHLEGEL.

The Saker Falcon was confounded from the time of Temminck's first edition of the "Manuel d'Ornithologie," up to the publication of Schlegel's "Revue," in 1844, with the *Falco lanarius* of Linnæus; and it is still named as such in collections. M. Schlegel has, however, restored the ancient name of *Le sacre* to the bird described as such by Gessner, Belon, and Buffon, and I think he has done good service to natural science by his researches on the subject; inasmuch as the Lanner Falcon, hitherto confounded with almost every other member of its family, will now take its proper place, and the distinction between it and the Saker, so ably drawn by M. Schlegel, and which in both instances we shall give almost in that naturalist's own words, must for the future be without doubt.

In the extracts from Schlegel's great work on Falconry, which we shall make about this rare bird, that naturalist says, "it is not found, to my knowledge, in any of the English or French Museums." There is, however, now a living specimen of this bird in the Gardens of the Zoological Society, to which my attention was drawn by Mr. Gurney. "A living specimen of this bird from Turkey, now in the Gardens of the Zoological Society, has a different plumage from any other specimens I have seen. This individual is cross-barred like a female merlin." In a subsequent note Mr. Gurney says, that he has seen another specimen in the collection of the East India Company, in which the plumage is the same as in the above bird, namely, having distinct, brown, transverse markings all across the back, shoulders, and wing coverts. Mr. Gurney considers these are the markings of adult age, as the specimen in the Zoological Gardens, (labelled *F. lanarius*, Linnæus,) had few, if any, of them when first sent there.

M. Schlegel observes:—"In the works of antiquity, though the description given exactly corresponds with this species, we cannot say that any distinctive name was given to it. In the middle ages authors equally puzzled themselves and others about this bird, while the English naturalists, (none with the exception of Gould having seen the Saker in nature,) have only compiled what they have read of it in the works of their predecessors. Forster's is the young of the White Jer-Falcon. Linnæus omits it altogether. Buffon's figure appears to be the true Saker, painted from a specimen in the Royal Ménagerie; his description he takes from Belon. Pennant, Latham, Gmelin, and other naturalists to the end of the last century, have made their Saker from a melange of other birds described by their predecessors. Huber confounds his pretty little figure with the Lanner, by which name he designates it; so has Bechstein, having like Temminck and Naumann, received his specimens from the Vienna Museum, the only place where the true Saker then existed; they have described it as Lanner. The Saker is very rare now in collections, and it is not found, to my knowledge, in the English or French Museums." (Schlegel writes in 1844-53.)

The Saker has been very well figured under the name of Lanner, by Gould, Naumann, and Susemihl.

The word Saker or Sacer, used in Europe since the Emperor Frederick, is the Arabic name for Falcon; it must not be confounded with the Latin *Sacer*, which means "sacred," for this mistake has caused the *F. sacer* to be confounded with the Sacred Falcon of the Egyptians, and has been one of the means of throwing confusion over its history.

Several have been killed in Hungary, and young

birds have been brought thence to Austria, taken out of their nests in the month of May, about sixty years ago, and sent to the principal falconers in Europe. Pallas, under the name of Lanner, speaks of two species, one stronger than the other, from the Ural Mountains; the weaker and smaller one more common from the deserts of Grand Tartary. Pallas, whose remarks in natural history are very exact, says, (and all his observations are evidently referable to the true Saker,) they build their nests on trees or even shrubs, found in the midst of the desert. The young birds to the number of two or three, often leave the nest before they are full-grown, and follow their mother everywhere, screaming lustily. They are then easily caught by the inhabitants of the desert, and sold to the Kalmuc Tartars as hunting birds. They are used sometimes for taking the kite, but they are considered too small for this purpose.

The following is M. Schlegel's description of the Saker Falcon, which from the rarity of the species, and the confusion of its diagnosis, we shall be excused for quoting at length from his work upon falconry.

"The Sacer of the falconers is a bird of a figure rather less strong than the Lanner, and consequently it is intermediate in this respect between this species and the Gyr-Falcon. It is distinguished from these two Falcons when young by a different modification of the tints, and by the two intermediate quills of the tail not being generally ornamented with bright bands. In adult age it is different from all other Falcons. Its plumage, like that of the young birds, is of more agreeable tints, and has not transverse bands either on the upper part of the body or on the under side. The tarsi are feathered above half their length. The tail goes beyond

the wings when folded, from an inch and a quarter to an inch and a half.

In the first year, though the colours are distributed in general similarly to those of the young Gyr-Falcon, it differs from it in the following details:—The ground colour of the upper parts is not so deep in the Saker, particularly on the tail, and it approaches more strongly to brown. There are only some isolated bright spots to be seen on the scapularies, which spots, as well as the borders of the feathers, are of a pale reddish brown, clearer upon the edges of the quill feathers. There is more white upon the nape, and upon the upper part of the head, where may also be seen some traces of a very pale reddish brown. The tail is widely bordered with white at the extremity; generally only clear markings are to be seen on the internal barbs of the lateral tail quills, and these markings, to the number of ten or eleven, are of an oval form, approaching more or less to orbicular. The spots of the under parts, generally of a very deep brown, are usually a little narrower in the young of the Gyr-Falcon, and they are not often seen upon the under part of the tail, except in the shape of thin dark streaks occupying the shafts of the feathers. The auditory region is always marked with white in the middle, and this prevails on the front of the forehead. The quill feathers have clear spots upon their inner barbs. The feet, the cere, and eyelids, are of a livid greenish blue, approaching to yellow in the plates of the toes.

The colours of the Saker undergo in moulting the following changes:—The ground colour of the upper parts is paler, distinctly so on the tail; the edges of the feathers are, on the contrary, of a more lively red on the back and wings, but paler on the quills of the

tail and the secondaries. The feathers on the crown of the head have a rather wide edge of reddish brown, approaching to white. The moustache but slightly visible. Chin, throat, and lesser wing coverts are of a dirty uniform white, and this prevails in the under parts of the body, the markings there being paler and less extended; these markings in the form of drops, and rather small upon the chest, the belly, and the feathers of the legs, are however much larger upon the sides. Those observable upon the lesser wing coverts are longitudinal, but the white spots of the great coverts are transverse, and arranged in bands. The claws as in the young bird, are of a uniform black, and the beak is of a bluish horn colour, passing into black towards the tip, and into yellowish towards the base of the beak. The feet, on the contrary, the cere, and the eyelids approach more strongly to yellowish than in the young bird."

The figure of this egg is from the drawing of a specimen in the British Museum.

RAPACES — DIURNÆ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—FALCO. *(Bechstein.)*

LANNER FALCON.

Falco Lanarius.

Falco Lanarius,	SCHLEGEL; Revue, 1844, p. 2.
" "	Klein Oido Avium, p. 48, No. 5.
Le Lanier,	BELON; p. 123. BUFFON; Nat. Hist. des Ois., i., p. 243.
Falco Feldeggii,	SCHLEGEL; Zoologie. SCHLEGEL AND SUSEMIHL.
Le Lanier,	SCHLEGEL ET VERSTER; Traité de Fauconnerie, fem. adult.

Specific Characters.—Moustache narrow; tail long; toes short, the median shorter than the tarsus. Plumage like that of the Peregrine Falcon, with the nape of the neck a reddish brown. —DEGLAND.

Measurement. Male—Length fourteen inches. Length of wing twelve inches and a quarter. Length of tail six inches ten lines. Middle toe one inch eight lines. Female—Length fifteen inches. Length of wing twelve inches and three-quarters. Length of tail seven inches ten lines. Middle toe one inch nine lines.

THERE is no Falcon about which so much confusion has existed as the celebrated Lanner of Falconry. The

name has been given to the Peregrine, the Ger-Falcon, the Sacer, and other birds, even by systematic writers. We are indebted to M. Schlegel for applying the right name to the right bird, and for drawing that distinction between this and the preceding species, which must in future prevent any mistake.

There are few naturalists who have correctly distinguished this bird. Schlegel considers that Naumann and Buffon have represented the true Lanner, killed at the beginning of the first moult, but they have taken it for the young of the Peregrine. The Lanner of Linnæus and Nillson he thinks is identical with the Ger-Falcon of Norway. The bird described by Pennant as this species, appears to be the young of the Peregrine. Schlegel himself, in his "Zoology," described as new to science, a Falcon under the name of *Falco Feldeggii*, which upon more attentive examination he became convinced was no other than the bird known to Falconers, and first described by Belon, so long back as 1555, in his "Hist. de la Nat. des Oiseaux," as the true Lanner, the subject of the present notice.

There is a specimen in the Museum of Mayence, of a young bird, killed at Hanau, which has considerable resemblance to the *Falco Biarmicus* of Temminck, but is distinguished by the colour as well as by the first quill feather being longer in the Lanner. The only Falcon for which it can be mistaken is the Peregrine, and here the likeness is considerable, but it may be readily distinguished by the greater proportionate length of its tail, by the toes being shorter, by the moustache (the dark longitudinal mark on the side of the head and neck) being less, by the feathers of the inferior parts being larger and softer, by the reddish colour of the nape, and by the absence of the

transverse dark-coloured bands on the belly and thighs.

There are specimens to be seen in the Norwich Museum, and in the collection of the East India Company.

Very little, if anything, is known about the habits and nidification of the Lanner. It has been observed in Dalmatia, but only accidentally in other parts of Europe. Lewin describes a true Lanner, said to have been shot in Lincolnshire. The Dutch Falconers, who take annually many Falcons, agree in the assurance that they have never seen this bird in a wild state.

In Falconry it is stated to be the best bird to fly at the partridge, and that it will live for many years (eighteen or twenty) in confinement. D'Arcussia, who has written much about Falconry, gives the bird the character of being cowardly by nature. He says the greater number of these birds come from Sicily, where they build their nests among rocks or the branches of high trees.

Before giving Schlegel's minute description of this bird, we will take the opportunity of saying a few words about the preparation of Falcons for Falconry, with which all the species in this number are so much connected, and which I shall abridge from the "Histoire Naturelle des Oiseaux," by Maout.

The object of the Falconer in training his bird is to induce it to give up its own will, and to lose all confidence in its own resources. To do this the bird is first subdued by fear, and then attached by hope. First it is kept in the dark for perhaps sixty or seventy hours, during which time the Falconer has it always on his wrist, which is armed with shackles called "castings," or small leather straps, having belts at their extremities, with which they fasten together the bird's

legs. While in this position it is not allowed to sleep, and if rebellious its head is dipped in cold water. It is also kept without food, until worn out by hunger and want of sleep it permits itself to be clothed in what is called a "chaperon," or hood. When it allows itself to be fed quietly, and then hooded again, it is considered tamed and accustomed to its master. The Falconer now uses artificial means to produce intense hunger, so that when appeased the bird may be more attached to the person who feeds it. This is the first lesson.

The Falconer next takes his bird out into a garden, and if when unhooded, it will of its own accord jump on the wrist to feed, it is thought fit to be taught to understand "the lure," which is a piece of leather with the wings and claws of a bird attached to it, and a piece of meat. This, with the voice of the Falconer is the means adopted to bring back the bird when on the wing. After it has been practised in a garden it is taken into the open country, where, with a string attached to its legs, it is permitted to take short flights of about (at first) sixty feet from the earth, increased gradually, and brought back each time with the lure, and rewarded by the piece of meat. The bird is then trained upon tame birds until its education is complete, and it is fit for the field.

Of the birds against which Falcons are flown, the Kite, the Heron, and the Crow are considered the best; such a chase being deemed fit for a prince, while that of the Pheasant, Partridge, or Wild-Duck, is considered fit for gentlemen! Some of the larger Falcons are occasionally used in pursuing the hare, and the Persians even use these birds in hunting the gazelle. They are trained for this purpose by feeding

the Falcon on the nose of a stuffed gazelle. When they are thus educated they take them out, and letting two fly at once, one immediately rushes down upon the nose of the poor gazelle and fixes therein its claws; of course the animal is alarmed, and stopping, uses every effort to shake off the bird; but the beating of its wings almost blinds the poor creature, and bewilders it still more. When the first bird is shaken off the other takes its place, and thus the dogs have plenty of time to come up. This same plan is said to be used in taking the wild boar and wild ass.

The plumage of the young Lanner resembles that of the young Saker, with the following exceptions:—The markings of the feathers on the top of the head are not so broad; the whitish colours of the edges of these feathers predominate. The reddish tint of the nape is more "prononcé." The light edges of the upper parts of the bird are less distinct, and not so brown as in the Saker: on the contrary, these parts are covered with small spots of a very pale red brown irregularly scattered here and there—subject to variety in different birds. The ground colour of the tail is paler than in the Saker, but it is always broken as much upon the external as the internal barbs of the tail quills, by transverse bands, to the number of eleven or twelve, the colour of which incomplete bands is like that of the markings upon the wings. The spots upon the superior parts of the bird are smaller than in the Saker. The lesser wing coverts have dark longitudinal markings, the least covered with whitish spots, generally of an orbicular form; on the greater coverts these spots are transverse and arranged in bands.

In adult plumage the tints of the Lanner have some analogy to those of the Peregrine and Jer-Falcon, but

are at once distinguished by the beautiful reddish tinge of the nape and upper part of the head. At this age the front of the forehead is whitish. The reddish brown feathers on the nape and upper part of the head have in the centre a longitudinal marking of blackish brown, larger on the middle feathers of the nape. The moustache is rather large but neatly defined. The feathers in the auditory region of a whitish tint strongly approaching to reddish yellow, have longitudinal dark markings, which nearly conceal the ground colour. Eyelids surrounded with black feathers, and a badly-marked streak of the same tint prolongs itself from the eyes beyond the region of the ears, where it disappears on the side of the nape. The colour of the ground of the other inferior parts of the bird is a blackish brown, like dark slate, with transverse markings of a bright bluish grey colour, which take the form of bands on the scapularies, greater coverts, secondaries, and rump, but disappear on the lesser wing coverts. The colour of these bands is bright upon the back and rump, but of a marbled brown on the other parts, growing of a redder brown towards the anterior extremity of the wing. The primaries, with the exception of the light spots on the inner barbs, are blackish brown. The ground colour of the tail is paler than that of the wings, and broken by a dozen transverse bands of a dirty white colour, shaded with grey brown; the tip of the tail is whitish. The lesser wing coverts are marked by longitudinal dark spots, and inferiorly with orbicular whitish spots: upon the greater coverts these markings assume the form of transverse bands. The prevailing colour of the inferior parts is white, more or less strongly shaded with pale reddish yellow. The chin, throat, and sometimes the crop, are of a

uniform whitish hue, but the other inferior parts are ornamented with cordate markings on the chest and belly, assuming on the flanks more the form of bands, lighter in colour on the thighs. On the under tail coverts the dark spots are generally longitudinal and rather narrow.

I have been very careful in giving as fully as possible Schlegel's description of this and the two preceding birds, in order that those who have not access to his great work on Falconry, may have an opportunity of understanding the grounds upon which they are constituted distinct species by that able and indefatigable naturalist.

Good specimens of all are to be seen in the splendid collection of the Norwich Museum.

We are unable to give a figure, from an authentic source, of this egg.

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—FALCO. *(Bechstein.)*

ELEONORA FALCON.

Falco Eleonoræ.

Falco Eleonoræ.	Géné, Icon. della Acad. Torino., 1840.
" "	CH. BONAPARTE; Iconografia della Fauna Italica.
" "	SCHLEGEL; Revue, 1844.
" "	DEGLAND.

Specific Characters.—Plumage of a black chesnut-colour; beak robust, the upper mandible being straight from the base to the tooth; cere bluish. Wings much longer than the tail; internal toe shorter than the external.—PRINCE CH. BONAPARTE, in Fauna Italica.

Measurement.—Length of adult male in Norwich Museum fourteen inches. Length of wing eleven inches.

WE are indebted to Signor Alberto della Marmora for the introduction of this beautiful Falcon into the European Fauna. In 1836 he saw it on the wing on the Sardinian coast, and suspected from the peculiarity of its cry, that it was an unobserved species. In

HIERACIDEA FALCON.

conjunction with the celebrated naturalist, M. Géné, a sharp look-out was kept up to obtain a specimen, in which they did not for some time succeed. Marmora at length obtained a female bird, which Géné declared to be a species new to science, and named it after the Queen Eleonora. In 1840 Géné published an account of this bird in the "Memoirs of the Academy of Turin," and discovered another species in the Museum of Turin, killed at Beyrout, and one killed in the vicinity of Genoa, in the collection of the Marquis C. Darazzo—which last bird proved to be the male of his Eleonora. Since then it has been beautifully figured and described at length by Prince Charles Bonaparte, in that splendid work, the "Iconografia della Fauna Italica."

There are two specimens in the Norwich Museum, supplied to Mr. Gurney by M. Verreaux.

M. Temminck, in his "Manuel d' Ornithologie," described, and after him, Mr. Gould figured and described the *Falco concolor* as a European species. M. Schlegel, however, in his "Revue," in 1844, and other writers since, have considered that M. Temminck confounded specimens of the Eleonora Falcon with those of *F. concolor;* and they founded this opinion chiefly upon the want of confirmation, since Temminck's last edition of the "Manual" in 1840, of the latter bird having been ever taken in Europe. M. Von der Mühle mentions, however, that it has occurred in Greece, though Schlegel thinks he has mistaken it for the bird I am now noticing. Whether *F. concolor* is a European species or not, future observation must decide, but of this there can be no doubt—that the species are totally distinct; and it is hardly likely that such good ornithologists as Temminck and Gould could have confounded

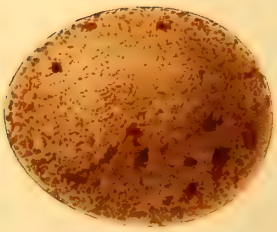
one with the other. The only similarity between the two birds is that they are each unicolorous; but then the colour of one is chesnut; the other dark slate or lead-colour; while there are specific points of difference between them sufficiently clear. I have, however, amid the uncertainty which exists, thought it better to omit *F. concolor*, though I do so with reluctance, from the European list.

The Eleonora Falcon is found in Sardinia, Greece, and Syria; and it occurs also in Africa. It seems to prefer plantations and shrubby woods for its residence. According to Prince Bonaparte it nests in July and August, in cavities covered with bushes among the rocky precipices near the sea. It lays three eggs, of a pale reddish colour, finely spotted, like the Hobby, with ferruginous brown.

Nothing more seems to be known at present of its habits or food. M. Jaubert, writing in the "Revue de Zoologie," in 1854, says it occurs frequently in Sardinia, and he describes the bird.

A fine adult male in the Norwich Museum, is in colour of a nearly uniform dark chesnut, rather lighter underneath. The quill feathers darker, nearly black above, shading off to a lighter colour below, and marked by indistinct elongated spots. The feathers of the under parts are fringed with a reddish tint, more particularly the throat and under the cheeks, the thigh feathers and under tail coverts. The tail is round, six inches long, and the same colour as the rest of the body, but barred underneath with nine or ten rows of darker tints. Cere, tarsi, and feet are said to be greenish yellow; claws black.

The female, which is labeled by M. Verreaux as in immature plumage, is so exactly like the Hobby, that



1. ELEONORA FALCON.

2. LESSER KESTREL.

a minute description is unnecessary. It has, however, a more general reddish tinge, is larger, and the beak not only more robust, but entirely different in shape when compared with that bird.

This bird is not figured in Gould's "Birds of Europe."

As the general colouring and markings of the egg of this bird so nearly resemble those of the Lesser Kestrel on the same plate, we have given a figure of a variety from Thienemann.

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—FALCO. *(Bechstein.)*

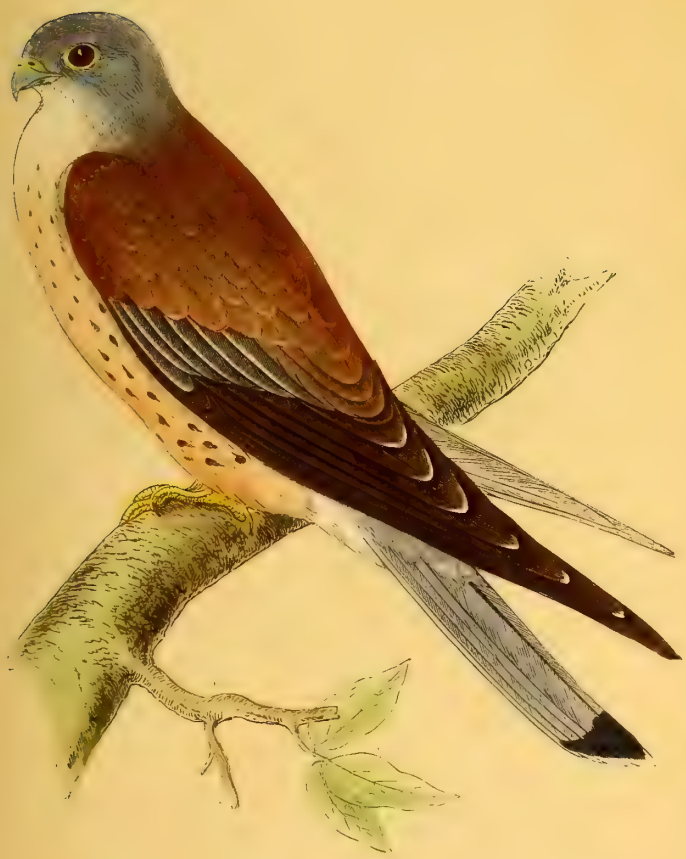
LESSER KESTREL.

Falco Tinnunculoides.

Falco Tinnunculoides,	NATTERER. TEMMINCK.
" *cenchris,*	NAUMANN. SCHLEGEL.
" *Tinnunculoris,*	VIEILLOT.
" *gracilis,*	LESSON.
Cerchneis cenchris,	CH. BONAPARTE.
Faucon creserellette,	OF THE FRENCH.

Specific Characters.—Wings reaching to the end of the tail; upper plumage and quill feathers of the male without spot. Claws yellowish. Length eleven inches.

THE Lesser Kestrel inhabits chiefly the eastern and southern parts of Europe. It is found in Hungary and Austria, and is very common in the kingdom of Naples, Sicily, and the mountains of the middle of Spain. It is found in the Morea, the north of Africa, the Crimea, and Switzerland. In France its principal localities are Languedoc, Provence, and the Pyrenees, particularly in the neighbourhood of that beautiful



mountain town Bagnères-de-Bigorre. In France it is a summer visitor only.

The Lesser Kestrel nests among old ruins, or in the crevices of mountain rocks, particularly according to Temminck, in Sicily, and in the neighbourhood of Gibraltar.

Its eggs, according to Degland, are three or four in number; very short, smaller than those of the Kestrel; of a reddish white, with a great number of little points and "fly spots" of a brick red, mingled together and mixed with small brown spots.

It has the same habits as the Kestrel; lives upon coleoptera, grasshoppers, and small reptiles, rarely upon small birds.

The following description is from M. Temminck:— Adult male; summit of the head, sides, and nape, of a light ash-colour, without spots; back, scapulars, and the greater part of the wing coverts of a brick red, dark, without any spots; some of the large wing coverts, the secondaries, the rump, and nearly all the tail of a bluish ash; a large black band at the end of the tail feathers, which are tipped with white; throat light; the other under parts of a clear reddish russet, studded with small spots and longitudinal black streaks. Feet, claws, cere, and eyelids, yellow; beak bluish.

The old female is rather larger; she so nearly resembles in the colour of her plumage the female of the Kestrel, that it is impossible to distinguish them in a description; they would however, be known from each other at the first glance; first, by the very small size, and, secondly, by the length of the quill feathers, which reach to the end of the tail.

The young males of the year differ but slightly from the old female.

The egg of this bird is from a drawing kindly sent me by M. Moquin-Tandon. The egg from which the drawing is made was supplied to M. Moquin-Tandon by M. Parreys, of Vienna. Bädeker, (Die Eier der Europ., Vög., pl. 10, fig. 4,) has represented six varieties of this species.

LE [illegible]-BILLED HAWK.

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—ASTUR. *(Bechstein.)*

Sub-generic Characters.—Wings short, reaching to about two thirds of the length of the tail; first quill feather much shorter than the second, the third nearly equal to the fourth, which is the longest. Tarsi long; toes of moderate length, the middle one the longest. Claws much bent and pointed.

LITTLE RED-BILLED HAWK.

Falco Gabar.

Falco Gabar,	LATHAM; Ind. Orn. Sup.
Epervier Gabar,	DAUDIN; Tr. d'Orn., ii. p. 87.
Astur Gabar,	LE VAILLANT. KAUP.
Nisus Gabar,	CUVIER; Regn. An., i. p. 321.
Sparvius Niger,	VIEILLOT; Gal des Ois., i. 22.
Accipiter Niger,	GOULD; B. of Australia, pt. 3. pl. f.
Micronisus Gabar,	GRAY; Gen. of Birds.
Le Gabar,	LE VAILLANT.
Red-legged Falcon,	LATHAM.

Specific Characters.—Cinereous, paler on the chin, throat, and breast. Body, thighs, and inner wing coverts white, with numerous gray bars. Tail with four blackish bands; base and tail coverts pure white; feet and base of the bill red.—SWAINSON.

Measurement.—Length of adult male in Norwich Museum, twelve inches. Length of wing seven inches and a half.

This elegant little miniature Goshawk is said by Schlegel to occur in Greece, and Malta is given as another European locality by the late lamented Mr. Strickland. Degland, however, doubts whether it has ever occurred in Europe, and omits it from his list; but he gives no reasons for his doubt, and as in addition to the above authorities, Mr. Gurney informs me he has no reason to disbelieve the statements of its occurrence in Greece, I introduce it here.

I will take this opportunity of making one or two remarks about the classification and arrangement I have adopted in this work; and this explanation is necessary, inasmuch as this bird is the first to which I have not given its sub-generic name.

I think there is no point in Natural History about which we should be more rigorously careful than simplicity in nomenclature. Since the days of Linnæus no one has observed this rule more strictly than the late eminent ornithologist, M. Temminck; and therefore I have unhesitatingly adopted his arrangement. A celebrated naturalist observed to me a short time ago, when conversing with him upon this subject, that we must regulate our nomenclature by the progress of science. In answer to this remark, I refer to the synonymes at the head of this notice. Seven eminent men have given the *Falco Gabar* seven totally different names. Which of the seven is right? Science must not be held responsible for what I have no hesitation in declaring to be a manifest absurdity, and this argument falls to the ground. Each authority could doubtless give *his* reason; but then the question resolves itself into one of personal opinion and not of science.

Linnæus described all the *Falconidæ* under one generic term, that of *Falco*. Temminck admitted sub-

genera, and gave their definitions; but he, like Linnæus, retained the generic name *Falco* for each species. I think he was right, and if this were the place for arguing the question, I could easily support this opinion by more logical proof. While admitting, therefore, a certain division into sub-genera, I shall follow the example and authority of Temminck, and adopt one uniform generic name for each of the several great families which I shall have to deal with in the progress of this work.

I have deviated a little from the arrangement of M. Temminck, in placing the sub-genus *Astur* before that of *Aquila*. In this I have followed Schlegel, and I shall do the same with the only species I am called upon to describe of the sub-genus *Circus*. There are, I think, many sound reasons why these sub-genera should be close to each other. *Falco* and *Astur* contain the most typical or perfect divisions of the family, while the Harriers form a good passage from the Hawks to the Eagles.

Falco Gabar is a native of both southern and western Africa, where it was discovered by Le Vaillant, the end of the last century. He says it was not uncommon; that it built in the fork of a high tree; and that its egg, like that of its congener the Goshawk, was white. We know nothing of its habits or propagation in Europe.

An adult male in the Norwich Museum, has the head, nape, and back of a uniform greyish brown or dark slate-colour; chin, throat, and chest of a lighter grey; the belly, thighs, and under wing coverts white, with delicate, thin, transverse bars of grey. Primary quill feathers hair brown, barred above and below with a darker tint, the tips being conspicuously margined

with white. Tail coverts (upper and lower) white; tail quill feathers white, with three or four broad dark hair brown transverse bars on each feather.

According to Swainson, the cere, with basal half of bill and legs, are of a bright red.

In the young bird the under parts are more tinged with rufous.

I have preferred Swainson's English designation of this bird, to that of Latham, as we have already a "Red-footed Falcon" in the British lists.

This bird is not figured in Gould's "Birds of Europe."

Our figure of this bird is from a beautiful drawing with which we have been favoured by Mr. Reeve, the Curator of the Norwich Museum. It is an adult male from South Africa, and about half the natural size. It forms one of the magnificent collection of *Falconidæ* in the Norwich Museum.

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—CIRCUS. *(Savigny.)*

Sub-generic Characters.—Tarsi long and slender; body tall and slim; tail long and rounded; wings long; first quill feather shorter than the fifth, the second a little shorter than the fourth, the third or fourth the longest; beak of medium size; cere large, covering more than a third of the beak.

PALE-CHESTED HARRIER.

Falco pallidus.

Circus pallidus,	SYKES; Proceedings of Zoological Society, April, 1832.
" "	KEYSERLING AND BLASIUS.
" "	SCHLEGEL. DEGLAND.
Falco pallidus,	TEMMINCK; Man., vol. iv., p. 595.
Circus Swainsoni,	SMITH. KAUP.
" *albescens,*	LESSON.
" *dalmaticus,*	RÜPPEL.
" *cinereus,*	CH. BONAPARTE.
Strigiceps pallidus,	CH. BONAPARTE.
Busard meridional,	CRESPON.

Specific Characters.—Head of male not spotted with pale brown; no dusky streaks on the breast; rump and upper tail coverts white, and barred with brown ash.—SYKES.

Measurement.—Length of adult male in the Norwich Museum seventeen inches; length of wing thirteen inches.

We are indebted to Colonel Sykes for the determination of this species. He was not, however, aware, when he published his paper in the Zoological Transactions for 1832, that the bird occurred in Europe. It had previously been confounded in India with *C. cyaneus*, the Hen Harrier of British lists. Colonel Sykes clearly pointed out the distinctions between the two species, and which are abbreviated at the head of this notice. Mr. Gould has a fine figure of the male bird in his "Birds of Europe," but it deviates from Colonel Sykes' type in having dusky streaks on the breast.

M. Temminck appears to have been the first who recorded the occurrence of this bird in Europe. Since then it has turned up plentifully in Spain. It probably has its head quarters in Africa, being found accidentally in France, Germany, and Italy.

In modern days ornithologists have changed the venue in regard to the charge of resemblance between *Falco cyaneus* and *F. pallidus*. The latter is now held to be so nearly like *F. cineraceous*, (Montagu's Harrier,) that Schlegel denies its specific distinction from that bird. I am at a loss, however, to comprehend how such an opinion has been arrived at by so eminent a naturalist as Schlegel. The decided marks of distinction pointed out by Temminck and Colonel Sykes, particularly the bars on the rump, and the number of specimens that have been taken both in Europe, Africa, and Asia, all having the distinctive characters alluded to, form, I think, sufficient evidence to settle the claim of this bird to the position assigned to it by all naturalists, with the exception of M. Schlegel.

1. PALE-CHESTED HARRIER.

2. IMPERIAL EAGLE. 3. BONELLI'S EAGLE.

The Pale Harrier is said by Colonel Sykes to feed principally upon lizards; that it inhabits wild rocky plains, that the sexes are never met with together, and that it builds in high trees.

The figure of the egg of this bird is from a drawing by M. Thienemann, pl. 44, fig. 2.

The adult male, according to Temminck, has all the plumage generally pale; the grey colour very clear; the top of the head in the male has no brown and white spots; the rump and upper tail coverts are marked with grey bars; the bars on the side tail quills are six or seven, and more strongly tinted with reddish. Head, mantle, and wing coverts of a pale grey; quills white at the base, passing into deep brown at their extremities, and margined externally with greyish; all the parts below, from the throat to the abdomen, of a pure white, more or less varied according to age, with fine brown streaks disposed over the chest and belly. Beak blue; cere and feet yellow; iris greenish yellow.

The adult female has the plumage like that of the Hen Harrier, except that the colours are two shades paler; the tail is crossed by six large brown bars, that of *C. cyaneus* having only four.

In the above description it will be seen that Temminck differs from Colonel Sykes, as to the brown streaks on the chest. Gould's figure was taken from a bird sent to him by M. Temminck. This discordance may probably be accounted for by the fact as stated by Temminck, that these marks are more or less visible according to age.

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—AQUILA. *(Brisson.)*

Sub-generic Characters.—Beak strong, not bending suddenly from its base; feet strong and sinewy; tarsi naked or covered with feathers; toes strong, and armed with powerful and much-curved claws. Wings long; the first, second, and third quill feathers the shortest, the first short, the fourth and fifth the longest.—TEMMINCK.

IMPERIAL EAGLE.

Falco Imperialis.

Falco Imperialis,	TEMMINCK. BECHSTEIN.
Aquila Imperialis,	CUVIER. GOULD. SCHLEGEL.
" *heliaca,*	SAVIGNY. BONAPARTE.
" *mogilinik,*	GMELIN. LATHAM. GRAY.
Aigle de Thebes,	OF THE FRENCH.

Specific characters.—Five scales on the last joint of the middle toe; only three or four, according to age, on the others. Some of the scapularies white, or tipped with white.

Measurement.—Length of adult male two feet six inches. Length of adult female three feet.

The Eagles form M. Temminck's second division of the *Falconidæ*, the typical Falcons or noble birds of prey being the first. The separation of this family into two classes—the noble and ignoble birds of prey—had its origin in the pastime of Falconry. A higher principle, however, that arising from structure, especially in the beak and wings, and a greater amount of intelligence, places the Falcons, according to the strict rules which guided men like Temminck and Cuvier, before the larger and more powerful Eagles.

The Eagles, particularly the large species, are from five to six years in arriving at their perfect plumage. Their vision is very acute, and they are provided with a peculiar membrane, by the assistance of which they can see against the sun. Their nest, termed an eyrie, is generally placed among inaccessible rocks. They mostly prey upon small live mammals and birds,—some feed upon fish and insects.

The Imperial Eagle, the subject of this notice, is one of the most beautiful birds of its tribe. It was long confounded with the Golden Eagle of the British lists, but it is readily distinguished by the specific characters, given above. It inhabits the extensive mountain forests in the middle, south, and east of Europe. It is found in Turkey, Hungary, Dalmatia, and the south of Russia; and is included in Machado's "List of the Birds of Andalusia." It occurs accidentally in the Pyrenees, and in the south of France. M. Crespon records its appearance in the departments of Gard and the Rhone; and M. Tyzenhaus says it is found rarely in Lithuania, where it has been known, in one instance to breed. It has a wide range, being found commonly in Egypt and Barbary, in India, and in the north of Africa.

In its habits it is described as more fierce than the Golden Eagle, and consequently more dreaded by its feathered victims. Cuvier says this bird is the true subject of the exaggerated tales propagated by the ancients, relating to the courage and magnanimity of the Golden Eagle.

It feeds principally upon small deer and young foxes, and large birds. It builds its nest among the mountain forests, on the highest trees and rocks. It lays two or three eggs, which are stated by Degland to be oblong, and of a dirty white; the long diameter thirty, and the shorter twenty lines.

Of the habits of this bird in India, Mr. Jerdon observes in the "Madras Journal," vol. x., page 66:— "I several times saw birds of this species, both single and in pairs, in the more northern parts of the Deccan, many of which shewed the white mark at the base of the tail, which gained for it the name of the Ring-tailed Eagle, and I procured a specimen near the Godavery River. I frequently also saw them near Jaulnah, even close to the cantonment; and they are occasionally seen to pursue and strike at hares, florikin, and other game started by sportsmen. This Eagle may generally be seen seated on the ground, or on a stone in the rocky hills in the neighbourhood of Jaulnah, whence, after the sun has been up for some time, it takes a flight in search of prey, at no great elevation, hunting slowly over the bushy valleys and ravines, and also over the cultivated ground occasionally; after which if unsuccessful in its search, it re-seats itself on a stone, on some eminence, or even perches on a neighbouring tree, where it patiently waits till some quarry is raised or viewed, or till hunger again prompts it to take flight. I obtained a specimen alive. It feeds most

greedily upon raw meat, preferring it to birds or animals, either dead or living. It is very sluggish and inactive even when urged by hunger. It generally drinks a gulp or two of water after eating. The only cry I have heard it utter is a harsh croaking."

Our figure of this egg is from a drawing sent me by M. Moquin-Tandon, with the following remarks:—"I bought this egg of a Paris Merchant in 1837. Great diameter seven cents two milles, (two inches and seven eighths,) little diameter five cents one mille, (two inches.) Surface rather rough; ground-tint heavy white, scarcely azured, and shaded with dirty russet. Schinz has given a representation of this egg, pl. 37, fig. 2, very exact in size, form, and colour. Thienemann (pl. 46,) has given a drawing of good size but too white in colour—probably a variety."

The Rev. H. B. Tristram, in his "Catalogue of Eggs for 1857," says of this bird:—"This rare and magnificent bird appears to prefer the forests to the cliffs for the purpose of nidification. It occurs very sparingly in Algeria, but is well known to the Arabs as distinct from the Golden Eagle. The eggs seem scarcely ever to have any but the faintest clouding, or a few obsolete spots."

The adult male and female have the plumage generally of a rich glossy blackish brown, darker below, except on the abdomen, which is reddish. There is a large conspicuous white spot on the scapulary feathers. The vertex, occiput, and nape of a lively red. Tail irregularly waved with ashy grey; iris whitish yellow.

Young birds are more variegated with russet, and the white mark on the scapularies indistinct. Iris light brown; toes livid yellow.

There are specimens in the Norwich Museum.

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—AQUILA. *(Brisson.)*

BONELLI'S EAGLE.

Falco Bonellii.

Falco Bonellii,	TEMMINCK. MARMORA.
" "	CH. BONAPARTE.
" "	KEYSERLING AND BLASIUS.
" "	SCHINZ. GOULD.
Aquila Bonellii,	SCHLEGEL. BONAPARTE.
" "	GRAY.
" *fasciata,*	VIEILLOT. DEGLAND.
L' aigle a queue barrée,	OF THE FRENCH.

Specific Characters.—Beak small; claws powerful; tail square, covered by the wings within two inches of its end. Legs long, entirely covered with feathers.

Measurement.—Length of adult male two feet. Length of adult female two feet six inches.—TEMMINCK.

BONELLI'S EAGLE principally inhabits the south of Europe, being found commonly in Greece. It also occurs in Italy, Sardinia, and the south of France; in all of which countries it breeds, and is a permanent

inhabitant. It has a wide range, being found in India and Africa.

According to M. Crespon, who seems to have frequently observed it in his excursions, it remains in the mountains during summer, and in winter descends to the marshes to hunt aquatic birds. When disturbed, it rises at once to a great height, and is quickly out of sight. Its cry is something like that of the Golden Eagle, but more feeble. An individual kept in confinement was very fierce and not easily tamed.

Its food consists of aquatic birds, hares, rabbits, etc. It nests on the crevices of rocks, laying two eggs, which are of a reddish brown, more or less pale, with the marbling and dots darker.—(Degland.)

We extract the following interesting remarks about this bird from Mr. Jerdon's contributions to the "Madras Journal," and his "Illustrations of Indian Ornithology:" —"The Mhorungah (its Hindustani name) is certainly a rare bird in Southern India. I have only seen it twice—once at Beramahl, seated on the edge of a tank, in the neighbourhood of a jungly district; and again a pair seated on a lofty tree in a tope in open country, in the northern part of the Deccan. Mr. Hodgson says the habits of the genus are as follows: —'Preys on jungle fowl, partridges, and hares; watches from a lofty perch, usually pouncing on its game when near it, sometimes pursues it with energy on the wing.' Mr. Elliot, in his "Notes," says:—'Is the noblest of the Indian Eagles, being seldom seen, and then generally at a great height in the air, in wild places. It preys on the hare. I once saw a pair of them hunting in company, which nearly surprised a peacock, pouncing on him on the ground.'

The large Hawk Eagle is dispersed over the whole

continent of India, from the Himalayas to Cape Comorin, but cannot be said to be an abundant species, though few districts are not occasionally frequented or visited by them. It chiefly affects the more wooded and jungly districts, and especially the neighbourhood of hills and mountain ranges.

It is much on the wing, sailing at a great height, and making its appearance at certain spots in the districts it frequents always about the same hour. It may often be seen seated on the summit of a lofty tree, or on some overhanging rock. I have observed it chiefly on the Neilgherries, along the range of Western and Northern Ghauts, also, though more sparingly, in the bare Deccan and Carnatic. It preys by preference on various kinds of game,—hares, jungle fowl, spur-fowl, and partridges, and even on pea-fowl; also on ducks, herons, and other water-fowl, and according to the testimony of native Shikarees, it has been known to strike down the douk, *(Tantalus leucocephalus.)* Most native Falconers, too, have stories to relate of its having carried off a favourite Hawk. On one occasion, on the Neilgherries, I observed it stoop successively at a spur-fowl, hare, and pea-fowl, each time unsuccessfully however, owing to the thickness of the jungle. A pair were also wont to resort to a village at the hills, and carry off fowls. Great havoc was committed among several pigeon-houses on the Neilgherries by a pair of these Eagles, and indeed I have heard that one or two were completely devastated by them. The manner in which they capture the pigeons was described to me by two or three eye-witnesses to be as follows:—On the pigeons taking flight one of the Eagles pounced down from a vast height on the flock, but directing its swoop rather

under the pigeons than directly at them. Its mate watching the moment when alarmed by the first swoop the pigeons rise in confusion, pounces unerringly on one of them, and carries it off. The other Eagle having risen again also makes another stoop, which is generally fatal. I have not yet been fortunate enough to meet with the nest of this Hawk Eagle, but it is said by native Shikarees to build on steep and inaccessible cliffs, and to breed in January and February."

The figure of this egg is from a drawing sent me by M. Moquin-Tandon, who observes,—"This drawing (without shade) was given to me formerly by M. des Murs, from an egg in his collection; (you know the collection is now in America.) I do not know the country where this egg was taken, nor can I be answerable for its authenticity. Its size is quite in accordance with that of the bird, but its colouring does not resemble that of the Eagles."

Since the above we have received the following from M. Moquin-Tandon. "In the third number of Bädeker's work, just out, two figures are given of *F. Bonelli*,—pl. 17, fig. 3. These figures are the size and nearly of the form of the drawing I sent you, but the colour is not so red, and more like that of the Royal Eagle."

There is a long series of this bird in the Norwich Museum, shewing the great variety in its plumage, for which it is remarkable. A fine adult male, probably a typical specimen, has the ground-colour of head, nape, belly, and throat white, with brown markings on the head and nape, and narrow longitudinal streaks of reddish grey on the belly. Wings variegated with dark and light brown, the quill feathers darker.

An adult female from Spain, in the same collection, has

the head, nape, throat, belly, thighs, and under tail coverts a rich cinnamon brown, streaked on the under parts with long narrow longitudinal black bands on the shafts of each feather. The head and nape are marked with dark longitudinal stripes. Back and tail dark brown; quill feathers darker, slightly marked with white.

Three other specimens (females) have a plumage intermediate between the two, doubtless in consequence of age, as it varies much every year. According to Marmora and Temminck the beak in the adult is horn-colour; cere and feet livid yellow; iris brown.

Birds of the year have the iris brownish yellow. Birds of the third year have the iris a clear yellow, and the tail without the dark border at its extremity, and marked with nine or ten transverse bands. There are seven large scales on the last joint of the median toe in the adult, and four on that of the external and internal.

BO[illegible]TAIL EAGLE.

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—AQUILA. *(Brisson.)*

BOOTED EAGLE.

Falco pennatus.

Falco pennatus,	GMELIN. LATHAM. CUVIER.
" "	TEMMINCK. SCHINZ.
" *pedibus-pennatis,*	BRISSON.
Aquila pennata,	BREHM. LESSON.
" "	CH. BONAPARTE.
" "	KEYS ET BLAS.
" "	SCHLEGEL. GOULD. GRAY.
Gestiefelter adler and Zwergalder,	OF BREHM.
L'aigle botté,	OF THE FRENCH.

Specific Characters.—Legs feathered to the toes; three scales at the extremity of the middle toe. A patch of white feathers at the insertions of the wings. Tail above entirely brown. The smallest of all the Eagles.

Measurement.—Length of adult male seventeen inches and a half. Length of adult female eighteen inches.

IF size were to be taken as the basis, or even an element in classification, the *Falco pennatus* must be excluded from the family of Eagles. But it has the

distinctive characteristics of a true Eagle, as shewn, among other marks, by the scales on the middle toe. It is smaller than any of our European Buzzards, with one of which, the Rough-legged Buzzard, *(F. lagopus,)* it has some similarity, and was even confounded with it by M. Temminck in the first edition of the "Manual." This error was, however, corrected, and a very distinct diagnosis given in the second edition, which I have incorporated with the specific characters at the head of this notice.

This beautiful little Eagle, called "Booted," from the thickly feathered tarsi, inhabits the eastern parts of Europe and adjoining parts of Asia, from whence it migrates occasionally into France and Spain. A specimen was shot at Meudon, in March, 1826; another at Bar-sur-Seine, in October, 1838; and others in the neighbourhood of Saumur and Bagnères-de-Bigorre, St. Etienne and Bayonne; and M. Degland, on whose authority we give the above localities, possesses himself a specimen which was killed in the department of the Hautes Pyrénées, on the 20th. of May, 1838. M. le Comte Von der Mühle mentions in his work on the "Birds of Greece," that he obtained many specimens in that country, and that two individuals were captured near Munich.

The Booted Eagle is described as very courageous, and attacks birds larger than itself, which alone would distinguish it from any Buzzard, were any point of difference now needed. It lives chiefly upon small mammals, reptiles, and large insects. It builds in high trees in Spain, and sometimes in the Pyrenees, laying two, rarely three short eggs, of a dirty white, slightly blue, and with a few very indistinct reddish spots; the long diameter being nearly two inches, and the short

one about an inch and a half. Gould's very fine figure of this bird was from a specimen sent him by Baron Feldegg, which was killed in Austria. There is a specimen in the Norwich Museum, which was shot on the nest at Bar-le-duc, in France, which must therefore be added to its European nesting localities. Our information about this interesting bird is altogether very scanty.

The specimen above alluded to in the Norwich Museum, has the head, nape, chest, belly, and under tail feathers white, with longitudinal ferruginous markings, and darker central streaks on the feathers of the chest. On the head and nape the ground-colour is nearly lost, so as to appear dusky brown. Moustache darker, and well marked; primaries black; tail brown. The iris is said by Temminck to be dark brown; the cere and toes, by Degland, to be greenish yellow.

Young birds are described as reddish brown above, more decidedly so on the head; light red below, with the streaks of a darker tint on the shafts of the feathers.—(Degland.)

In the "Madras Journal," vol. x., page 75, Mr. Jerdon remarks:—"My attention was first called to this bird at Trinchinopoly, by Mr. Hooper, C.S., who shot a specimen in the act of pouncing on some of his pigeons. I occasionally afterwards recognised it, as I thought, among the Kites, and saw it attempt to swoop off chickens and pigeons. Its appearance in the air, and mode of flight much resemble that of the Kite; but the crows appear to distinguish it readily, and often clamorously pursue it."

The Rev. H. B. Tristram writes of this bird, in his "Catalogue of Eggs for 1857:"—"This symmetrical little bird, so like a Buzzard in repose, so unlike it

on the wing, is only a summer visitant to Southern Algeria. It breeds on ledges of rocks, and seems to prefer the cliffs and open country to the forests. It lays two eggs, longer and a little larger than a Buzzard's, and seldom so richly marked."

The figure of this egg is from a drawing sent me by M. Moquin-Tandon, who observes,—"This egg was sent to me from the Spanish Pyrénées, by a seller of skins. I thought for some time that it belonged to the Common Buzzard, or else the Rough-legged Buzzard; but on comparing it with two drawings, quite recently published by M. Bädeker, pl. 1, fig. 3, I discovered that I had been deceived."

1. BOOTED EAGLE.

2. TAWNY EAGLE. 3. PALLAS'S SEA EAGLE.

...Y EAGLE.

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—AQUILA. *(Brisson.)*

TAWNY EAGLE.

Falco nævioides.

Falco nævioides,	CUVIER.
" *rapax,*	TEMMINCK.
" *albicans.*	RÜPPEL.
" *Senegallus,*	CUVIER.
Aquila nævioides,	CUVIER. KAUP. GRAY.
" *fulvescens, fusca, and punctata,*	GRAY.
" *Vindhiana,*	FRANKLIN.
" *choka,*	SMITH.

Specific Characters.—Colour uniformly tawny, numerous faintly-coloured transverse bands on the upper side of the tail. Tarsi clothed. Four large scales at the end of middle toe.

Dimensions of an adult male in the Norwich Museum, from M. Favier, of Tangiers.—Length twenty-six inches. Length of wing twenty inches; beak to angle of gape two inches and a half; middle toe and claw three inches; hind toe and claw two inches.

I INTRODUCE this bird into the European list upon the authority of Lieutenant Blakiston, who has described

its occurrence in the Crimea, in the "Zoologist" for 1857, p. 5350, in the following words:—"There is one more species of which I must speak; the only specimen I know having been killed by a friend of mine in the far-famed valley of Baidar, in May, who kindly brought me the specimen while fresh, which I accordingly skinned, not knowing the species, however, until my return to England, when on walking through the British Museum I espied one that was to my mind the same, and so it turned out to be, namely the Tawny Eagle, (*Aquila nævioides.*) I preserved the sternum of this bird."

The extensive range of this bird over the continent of Africa and Southern Asia, makes its discovery in the Crimea less remarkable. It is mentioned by Dr. Rüppell, under the name of *A. albicans*, as occurring in Abyssinia.

An interesting account of this Eagle is given by Mr. Jerdon, in the tenth volume of the Madras Journal, p. 68, from which I quote the following:—

"The Wokhab (the Indian name for Tawny Eagle) is the most abundant Eagle in India. I have seen it both in the Carnatic, though more rarely, and on the table land, where it is tolerably common. In the Carnatic it chiefly frequents hilly districts clad with low jungle. In the Deccan it frequents by preference the cultivated lands near villages. Till an hour or two after sunrise it may be seen seated on the top of some tree, after which it sallies forth, sailing about at a moderate height in general, though it varies much in this respect, over the fields, valleys, and ravines, with a slow circling flight, or in company with the kites, like which it is ever on the look-out, hovering over villages, towns, and cantonments. They prey upon

hares, as I have ascertained in one or two instances from the contents of their stomachs, and other game, also rats, lizards, snakes, and insects; occasionally also pounce on an unwary bird, and in fact feed upon almost any kind of food, living or dead, which, however, they obtain perhaps less by their own industry than by robbing other birds—kites, falcons, and other birds of prey. From Mr. Elliott's "Notes" I extract the following:—'The Wokhab is very troublesome in hawking after the sun becomes hot, mistaking the jesses for some kind of prey, and pouncing on the falcon to seize it. I have once or twice nearly lost shaheens in consequence, they flying to great distances from fear of the Wokhab. A specimen I possessed alive was not very particular as to its food. It frequently snatched morsels from a Golden Eagle I kept with it, to which the latter in general quietly submitted; it is a very noisy bird, frequently uttering a shrill scream, and has a great share of curiosity, walking up to and carefully and thoroughly examining every new-comer I place in the same apartment. It is apparently a very easily-domesticated bird, and perhaps might be taught to hunt hares, etc.'"

Mr. Gurney also writes to me about this bird as follows:—"Mr. Ayres sent me a specimen from Natal, who writes that a hawk had seized a fowl and was carrying it off, when a Tawny Eagle gave chase, apparently for the purpose of plundering it of its prey. The hawk took refuge in the "bush," and the Eagle being thus disappointed, was flying over the bush when Mr. Ayres shot it. M. Favier, of Tangiers, sent me a specimen from that locality. He states that it nests there on the tops of high trees, and lays two eggs, of which only one is hatched.

The Indian specimens of this Eagle are generally

smaller than the African, and have by some naturalists been described as distinct species, under the name of *A. Vindhiana.* I have, however, a specimen from Abyssinia, as small as those from India, but this is an exception. This Eagle seems to me to occupy a position intermediate between *A. imperialis* and *A. Mursii,* a newly-discovered small Eagle of Western Africa, named by M. Verreaux, after the late M. Des Murs.

Some specimens of *A. nævioides* are of uniform light brown all over, others are much darker, but the dark specimens generally have part of each feather rather darker than the other parts, the shaft of the feather separating the two shades; this is especially the case in the feathers of the back and wings, except the quill feathers. I have a female alive which has been in this parti-coloured, or rather parti-shaded plumage for several years without any variation. Specimens of this bird killed in a wild state when near the time of moulting, are generally very light-coloured, as the feathers fade from exposure to the sun in the living bird, more than they do in any other kind of bird I know. It is in this state that Dr. Rüppell calls it *A. albicans.* My living bird is very noisy, and when uttering its cry its throat puffs out nearly to the size of a goose's egg."

An adult male in the Norwich Museum has the head, nape, neck, all the under parts except the tail, and most of the back, a tawny dirty yellow. The large wing coverts are more variegated with dark brown. Primaries, secondaries, and tail feathers above and below, dark hair brown; tail on the upper surface faintly marked with numerous transverse bands; cere and toes dirty greenish yellow.

The figure of the egg is from a specimen sent by J. H. Gurney, Esq., of Catton, Norfolk.

PALLAS'S SEA EAGLE.

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus.—AQUILA. *(Brisson.)*

PALLAS'S SEA EAGLE.

Falco leucoryphus.

Aquila leucorypha,	PALLAS; Zoog. Ross. Asiat. 1, p. 352, No. 26.
Haliaëtos leucoryphus,	KEYSERLING ET BLASIUS.
" "	SCHLEGEL; Revue.
" *macei,*	CUVIER; Reg., An.
Falco macei,	TEMMINCK; pl. col. 8, 223.
Cuncuma macei,	GRAY.
Haliaëtus unicolor,	GRAY.
" *lanceolatus,*	GRAY.

Specific Characters.—Tarsi naked; cere livid. Plumage brown; vertex spotted with white. Nine large scales on the end of middle toe.—PALLAS.

Dimensions of an adult male in the Norwich Museum.—Length twenty-five inches; length of wing twenty-one inches; length of tarsus four inches; length of middle toe and claw three inches and a half.

It is still, we believe, an undecided question whether *Falco leucoryphus* of Pallas and *F. macei* the great Bengal Fish Eagle, are the same species. Gray gives the former doubtingly as a synonyme of the latter, and Schlegel hesitates in expressing the opinion whether the birds observed by Pallas and Eversmann were the young of *F. macei*.

There is no doubt, however, but that *F. leucoryphus* is a European species, since in addition to those observed by the naturalist mentioned above, it has been seen and shot by Lieutenant Irby, in the Crimea, and recorded in the "Zoologist" for 1857, p. 5353, in the following words:—

"White-headed Eagle, *(Falco leucoryphus.)*—Common in the interior of the Crimea; not seen among the rocks by the coast. This bird bred in two instances on trees close to the Katcha River; the nests were about thirty feet from the ground, and very large, formed of sticks, lined with grass and old rags. The remains of a hare was in one nest, in which was also a young bird just hatched, which did not live long, as may be imagined. A very fine specimen was killed with a revolver, while sitting on a tree near the Alma; the bird was apparently gorged, and therefore allowed a very near approach. This Eagle is apparently different from the American White-headed Eagle, *(F. leucocephalus,)* and is not, I think, described in any English work on ornithology. Unfortunately I was not aware of this at the time, and so did not particularly notice it. It is known to the Russian naturalists under the name *Leucoryphon*. A friend of mine, a good observer of birds, saw one of those Eagles chase an Osprey, and make it drop its fish. I have heard the American Sea Eagle does the same. The head, feet, and sternum of one of these

birds are in England, and will no doubt clear up the question as to whether it is a distinct species or not."

Mr. Gurney writes, "I think there is not the slightest doubt as to *H. leucoryphus* being as good a European species as any on the list. I had much conversation with Lieutenant Irby, who is an excellent observer. * * * It is, I understand, admitted to be European beyond any doubt, by the St. Petersburg naturalists of the present day, the only question being whether they are right or not in considering it identical with *H. macei* of India."

F. leucoryphus or *macei*, for we shall in this notice consider them identical, was first observed in Europe by that excellent naturalist Pallas, and was recorded by him in his "Zoography of Asiatic Russia," vol. i., p. 352. He remarks that it was observed rarely in the vicinity of the Caspian, and that it nested in the woods surrounding that sea. He describes the bird minutely as being rather larger than the Spotted Eagle, and in habit between the Osprey and White-tailed Eagle.

M. Eversmann again reports the occurrence of the same bird, as observed by him in his voyage to Bokhara. Schlegel gives not only Eversmann's description but his own from the same specimen, in which he describes the bird as having the "figure, beak, feet, and organization of *H. macei*."

F. leucoryphus belongs to the section of Sea Eagles forming the sub-genus *Haliaetus* of authors. Its home is the Indian continent, where it is common. Mr. Mc. Clelland, in writing in the "Proceedings of the Zoological Society," in 1839, remarks of *H. macei*, "This Eagle preys on fish, and is particularly active during a storm, when it is found soaring over the lee shore, descending on such fishes as are driven into shallow water. During

fine weather it spends the principal portion of its time on some high solitary bank quite motionless." And Mr. Hodges, in the "Bengal Sporting Magazine" for 1836, observes, "This species is generally found on the banks of the larger rivers, near to where they issue into the plains, and it preys on fish;" which quite agrees with the account given by Lieutenant Irby, of the *Leucoryphon* of the Crimea.

I shall give the description by M. Schlegel, of Eversmann's specimen of *F. leucoryphus*,—Pallas, and then that of the specimen labelled *H. macei* in the Norwich Museum, from which my figure is taken. M. Schlegel says, "Length twenty-four inches and a half; wings one foot ten inches; tail eleven inches; tarsus three inches and a half; middle toe, without claw, two inches. Figure, beak, feet, and organization that of *H. macei*. Beak blackish; general colour of the plumage earthy brown, paler on the inferior parts. Feathers, particularly the wing coverts, with a light border; those of the head and neck fringed with yellowish brown. Region of the ears, and a large streak, which is prolonged hence to the neck, blackish brown. Greater coverts of the wings and tail black; tail varied with white the first half of its length; tail coverts pale brown, relieved by some whitish spots. Feet yellowish; claws blackish. Tail insensibly rounded at its extremity."

An adult male, marked *H. macei*, from the Himalayas, in the Norwich Museum, has the crown of the head, nape, scapularies, upper part of back, and all the under parts except the throat, cinnamon brown, darker on the belly and thighs. Throat and forehead dirty white; wings black brown; tail white, each feather being for about two inches from the end black. Cere and legs yellowish brown.

The female is much larger, but the plumage nearly the same as the male, except that the back is darker, and the white on the throat more dirty.

An immature female is nearly unicolorous, dark cinnamon brown, with white patches on the back and wings. Tail entirely black.

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—AQUILA. *(Brisson.)*

BALD EAGLE.

Falco leucocephalus.

Falco leucocephalus,	LINNÆUS. TEMMINCK.
" *ossifragus,*	WILSON; Amer. Orn., (*young.*)
Aquila leucocephala,	PALLAS. SWAINSON.
Haliaëtus Washingtonii,	AUDUBON; Birds of America, pl. 11.
" *leucocephalus,*	CUVIER. KAUP. BREHM. GRAY.

Specific Characters.—Beak and claws shorter than those of the *Falco albicilla;* eight large scales on the extremity of the middle toe. Tarsi clothed on their upper half only.—DEGLAND.

Measurement.—Length of adult male from thirty to thirty-two inches. Length of adult female from thirty-four to thirty-six inches.—TEMMINCK.

THE well-known Bald Eagle of the United States, the national emblem of that republic, is reported by Nillson to occur frequently and nest in Norway. It is generally believed, however, to occur accidentally

in Europe. One male, as reported by Degland, has been killed in Switzerland—a female in the kingdom of Wurtemberg; and it is stated by Brehm to appear sometimes on the sea-coasts of Germany. It is not easy to account for Schlegel's reasons therefore for omitting this bird from the European list. He seems, I think without sufficient reason, to have thrown doubt upon the truth of the various reports of its capture, and considers it to have been confounded with other species. On this point Degland remarks, "The opinion which M. Schlegel gives on this subject, in his twentieth observation, would appear to me of great weight in the argument for erasing this bird from the European list, if M. Nordmann had not mentioned in the "Faune Pontique," the capture in the middle of Russia of two Sea Eagles, *with all the head, neck, and tail of a pure snow white.* After having compared them carefully with other Sea Eagles killed in the same locality, he considered them to be old individuals of *F. albicilla,* not admitting any specific difference between it and *F. leucocephalus.* It is probable if the learned naturalist of Leyden had known this fact, he would have been very careful not to erase *F. leucocephalus* from the European list; for I do not know that *F. albicilla* ever has, when it becomes old, the head and neck of a pure white, like the tail."

The habits of *F. leucocephalus* are very similar to those of the White-tailed Eagle. An admirable description is given of this bird by Audubon, and his graphic account of its encounter with a Swan on the banks of the Mississippi, has been copied into almost every work upon ornithology. I shall not insert it here, but I cannot help quoting the observations of a recent French writer, M. Mouat, after relating this spirited narrative in his work:—

"Let us compare with this magnificent description the most elegant pages of Buffon, and the difference will be seen between the sedentary and the field naturalist. We are far from being so ungrateful or so bold as to wish to weaken the admiration due to that immortal writer, who must be ever remembered with pride by France among its scientific and literary glories. In inviting our readers to study comparatively the style of two such eminent men, we only wish to make them feel how many advantages a simple and exact mind, which has studied from Nature, has over the most brilliant genius which has only made its observations in a menagerie or a garden. The passionate love of Natural History is the only secret of the descriptive talent of Audubon, and the attentive observation of facts has sufficed to give to the pictures he has drawn a warmth of colouring which the most clever writer cannot find among the dust of his cabinet."

I shall, I am sure, be excused this digression, containing, as it does, so just a tribute to the celebrated American ornithologist.

M. Mouat gives the following description of Audubon's first discovery of what he then thought a new species, but which, according to Prince C. Bonaparte, is the one I am now describing. I transcribe M. Mouat's account of this discovery:—

"Audubon describes under the name of Washington's Eagle a species of Fishing Eagle, which Prince C. Bonaparte re-unites to the *Falco leucocephalus*. The American ornithologist observed it for the first time in 1814, and felt, he said, happier in finding this new species than Herschel did in discovering his planet. It was in the month of February Audubon was ascending the Mississippi. The glacial north wind surrounded him,

and so deadened his enthusiasm, that he saw with indifference myriads of aquatic birds passing before him as they descended the river. All at once an Eagle flew above his head; he raised himself up and knew at the first glance that it was to him a new species. He immediately disembarked, and saw the Eagle directing its flight to some high rocks. Next morning he fixed himself opposite the place, and waited patiently for a sight of this bird. After some hours of expectation he heard a hissing noise, and saw at the edge of the most elevated point of the rock two birds agitated with signs of impatience and joy. These were the Eaglets welcoming the return of their parents: the father appeared first, holding in his beak a fish, which he carried to his young ones; then the mother came also with a fish; but more prudent than her companion, she looked round in defiance, and perceived the man immoveable on the surface of the rock. She immediately let fall her prey, and began to fly round above him screaming, to send him off. The young having concealed themselves, Audubon picked up the fish, which was a large perch. He came the next day but saw nothing. Again the following morning, and waited all day, but his invasion had been foreseen, and the family had changed quarters. Two years afterwards he shot a specimen, and named it *A. Washingtonii.* The following winter he was able to observe at his leisure the habits of another pair of these birds."

The Bald Eagle nests on the escarpments of rocks, and, according to Nilson, on the largest and highest trees. Degland says it lays two eggs, which are white or a yellowish grey, more or less dark, with some few slightly apparent reddish grey spots. The interior of the egg shell is of a beautiful grass green.

The egg which we have figured of this bird is from a drawing sent us by M. Moquin-Tandon, with the following remarks, in which it will be seen he differs from Degland:—"His Royal Highness Prince Napoleon brought back many eggs of this bird from his travels in the north of Europe. He was good enough to give me one of them. This egg is eight centimetres (three inches and one-eighth) in its greatest, and six centimetres two milles (two inches and three-eighths) in its smallest diameter. The shell is rather rough, of a whitish very slightly azured tint, and looks as though washed with a dirty yellow. Prince Napoleon possessed several eggs of the same bird—none had spots. I am particular upon this point, because Nilson says that they have spots rare, and but little apparent, of a reddish grey. This assertion is repeated by Degland. I have not broken the egg to be certain the interior of the shell is really of a beautiful grass green, but I doubt it very much."

It is somewhat difficult to distinguish the young of the Bald Eagle from that of the White-tailed Eagle, and consequently some authors, including M. Temminck, in the first edition of his Manual, have confounded the two species. The latter states the only difference is in the length of the tail; but Degland suggests the possibility of Temminck having mistaken the young of *Albicilla* for *Leucocephalus*, and justly remarks that a difference in the length of the tail as a characteristic distinction, is not entitled to much confidence. The adult species are quite distinct.

An adult female from Canada, in the Norwich Museum, has the head, neck, and tail entirely white; rest of the body of a uniform dark brown, with one or two feathers on the thighs whitish. The male does not differ in colour from the female.

1. SHORT-TOED EAGLE.

2. BALD EAGLE.

An immature specimen in the same collection is dark brown, with white markings on the neck, belly, and back. Tail black.

According to Degland the young differ from those of the White-tailed Eagle in the greyish tint of the head and neck, and by the entire plumage being less variegated with dark and pale grey brown during the first years. After some moultings the head, neck, and upper tail coverts shew the white feathers, and leave no longer any doubt of their indentity.

According to the same authority the beak, cere, base of the tarsi, and toes of the adult are of a more or less pale yellow. Iris white, inclining to yellow.

Since the publication of our last number, containing the first page of the notice of *F. leucocephalus*, I have received letters from Mr. Gurney, and Mr. Alfred Newton, of Elvedon Hall, near Thetford, expressing most decided opinions in favour of Schlegel's view, that this bird ought not to be included in the European list. I am anxious to make this work as perfect as possible, and in the admission or exclusion of any bird, I think it my duty to weigh the evidence, and decide according to that which appears in my judgment the strongest. Degland, who writes five years after the publication of Schlegel's "Revue," speaks in the most positive manner upon the subject, and in favour of the retention of this bird in the European list.

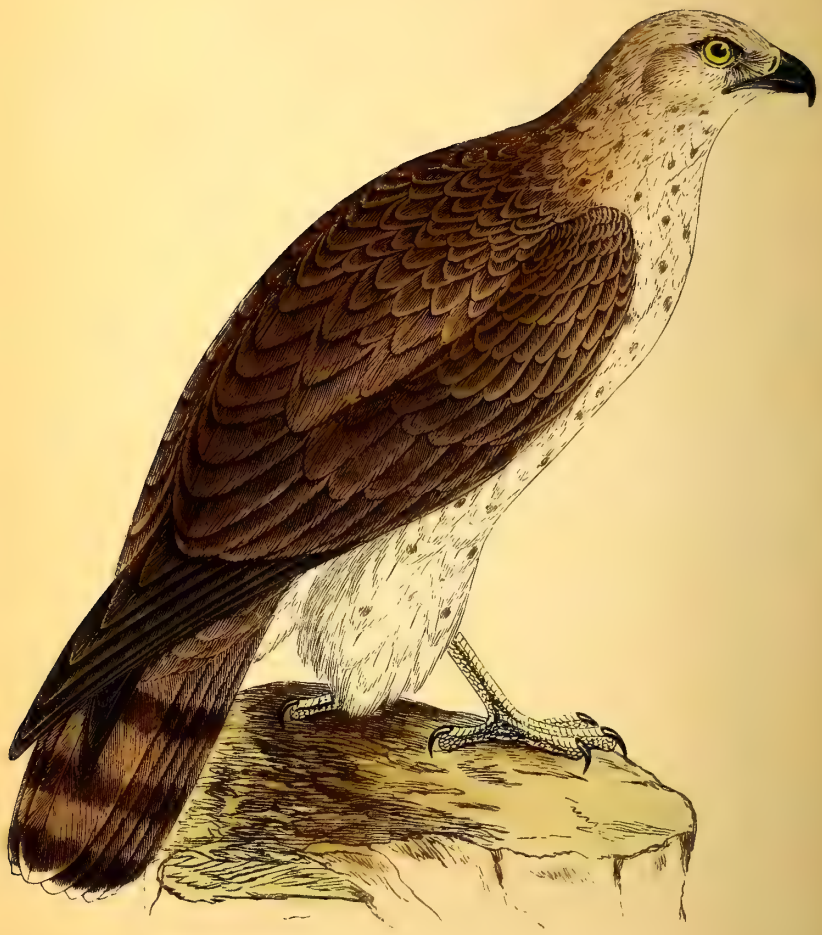
I particularly draw attention to his observation, page 13, "Ornithologie Européenne," and the quotation of M. Nordmann's two Eagles, killed in the south of Russia, with heads and necks, as well as tails, *as white as snow*. Has any ornithologist ever known such a plumage in *F. albicilla?* I may add that *F. leucocephalus* is introduced into the European list by Temminck, Gould, Degland, C. Bonaparte, Swagers, Keyserling and

Blasius, Schinz, Lesson, etc.; and in this notice I have stated that Professor Moquin-Tandon sent me the drawing of an egg, brought with others by Prince Napoleon, *from the North of Europe.*

In this position of the question, I certainly did not feel justified in omitting this bird from the European list. The question is however still open to further investigation, which I hope will be more exact than that which it has hitherto received.

Note.—Falco Leucoryphus. After my notice of this bird was in type, I received a letter from Captain Irby, of the 90th. Light Infantry, dated Nawabgunge, near Lucknow, (in answer to one which I sent him making inquiries about this bird,) from which I have much pleasure in adding here the following extract:—

"I lost all my notes when wrecked in the 'Transit' in July last year, on our way to China; so all the information which I can give you about *Falco leucoryphus* will be from memory only. The notice in the 'Zoologist' of January, 1857, contains all I know of its habits. The officers of the 97th., who shot the only two that I saw, would not part with them, and I could only get the sternum of one, which I gave to Mr. Gurney. The skins were eventually destroyed by accident, except the head, part of the wings, and tail of one, which I think are in England now. I will write to the owner and try and get them sent to you. The two I saw had the head of a dirty white colour; back, wings, and tail, of a very dark brown; primaries nearly black; breast light brown; bill and feet resembling those of *H. albicilla.* I think it is most likely that my birds were specimens of *F. macei,* from what I have since heard. I am sorry not to be able to tell you more about them."



SHORT-TOED EAGLE.

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—AQUILA. *(Brisson.)*

SHORT-TOED EAGLE.

Falco brachydactylus.

Falco brachydactylus,	WOLFF. TEMMINCK.
" "	SCHINZ.
" *gallicus,*	GMELIN. LATHAM.
" *leucopsis,*	BECHSTEIN.
Aquila brachydactyla,	MEYER.
Circaetus gallicus,	VIEILLOT. CUVIER.
" "	LESSON. DEGLAND.
Circaëtos gallicus,	BONAPARTE. SCHLEGEL.
" "	BUFFON. GOULD.
Aigle Jean-le-Blanc,	OF THE FRENCH.
Schlangen bussard,	OF THE GERMANS.

Specific Characters.—Toes short, nearly equal; head large, round; eyes very large; tarsi naked.

Measurement.—Length of adult male twenty-four inches.—TEMMINCK.

THE Short-toed Eagle forms the sole representative

of the genus Circaetus of Vieillot. It is placed by Schlegel after the Buzzards, but I see no reason to deviate from Temminck's arrangement, with the exception of placing it last of the sub-genus Aquila, forming, as it does, a natural link between the Eagles and the Buzzards, just as *F. Bonelli* does between the Hawks and the Eagles.

This bird has an extensive range over the Asiatic and European continents. In Europe it is found, according to Degland, in the Vosges, the Hautes-Alps, the mountains of the Var and the Hautes-Pyrenées. It is a permanent resident of the Dauphiné and Anjou. It occurs accidentally in the north of France; rarely in Switzerland and Germany, and is included by Count Mühle in the Birds of Greece. According to Temminck it does not occur in Holland, is becoming rare in France, and equally so in Belgium and Italy, and it is not included in Machado's list of the Birds of Andalusia.

In the Madras Journal there is an interesting account of its habits in that country by Mr. Jerdon, which I transcribe from the valuable Catalogue of Birds in the East India Company's Museum, by Mr. Horsfield:—

"This species is very generally spread over the country. It affects chiefly the open plains and patches of cultivated ground. It may frequently be observed perched on a low tree, or even a bowrie pale, or seated on the bank of a river, where it occasionally darts on its prey, but generally takes a long and lofty circling flight, or flies heavily along but a few yards above the ground. The most favourite food of the Samp-mar is, as its Indian name implies, snakes. It will however take other food. Colonel Sykes found a rat in the stomach of one. I saw one strike at a wounded hare, and another make a

swoop at a teal that was shot. From Mr. Elliot's 'Notes' I take the following:—'Pounces on snakes and guanas; my Meer Shikar has seen them on the ground with their claws on the snake's head, its body coiled round the bird's wings, in which state the herd-boys sometimes kill them. The Yerklees say it has a figure of the god Chukram under each wing, by which it prevents the snake going forward. In the stomach of one I found a snake about two feet long, and a centipede.'"

Of its habits in Europe the best summary with which I am acquainted is in Degland's "Ornithologie Européenne," which I will give in his own words:—

"Le Jean-le-Blanc lives in the borders of woods, frequenting the underwood. In its manner and carriage it is very like the Common Buzzard, and equally indolent. M. Gerbe saw one attacked by Magpies, but the Eagle remained totally unmoved. In winter, according to M. Bouteille, it lingers near the dwellings of man, on the look-out for poultry, which in this season is its principal food. In the summer and autumn it frequents marshes, and then feeds upon field-mice and lizards.

M. Tyzenhauz does not agree upon this subject with our friend, for, according to him, the Jean-le-Blanc does not hunt small animals, but grouse, partridges, hares, and barn-door fowls are its favourite prey. If sometimes reptiles have been found in its stomach, it was, according to this naturalist, in consequence of its being forced by hunger to feed upon them. Notwithstanding this assertion, it is, however, certain that it attacks small vertebrate animals, and even insects. M. Gerbe, at two different times, found their stomachs filled with the elytra of beetles."

The Short-toed Eagle nests not only upon high trees, but according to M. Bouteille, in brushwood and coppices,

in which opinion he is corroborated by M. Roux, who says that it builds "sometimes in high trees, and sometimes very near the ground." M. Tyzenhauz says that it builds only on high trees in old forests, and never on the ground.

The eggs, two or three in number, are of a dirty white or greyish, often slightly tinged with blue, and without spots.—(Degland.)

M. Meyer says that the eggs are three, of a grey slate-colour, with some spots of a light brown; but M. Temminck remarks upon this, that he has never seen eggs of this bird so dark a grey, and if they were, the light brown spots would not be visible, as these spots are always darker than the ground colour. M. Degland says that he possesses an egg given him by M. Bouteille, which is of a pure white, and rather rough to the touch; that its authenticity cannot be doubted, for the female was taken with it.

In the midst of so much discrepancy of opinion, it is with much pleasure I introduce the remarks of M. Moquin-Tandon, which accompanied the drawing from which our figure was taken, kindly sent by him, and which I think quite clears up the matter:—

"This egg was given me some years ago by Degland, who had received it from M. Bouteille; the female was taken with the egg. The great diameter of this egg is six cents and a half, (two inches and five-eighths,) and the little diameter four cents and a half, (one inch and seven eighths.) The shell is dull, and rough to the touch. Tint pale azure white, without spots. Schinz's figure, pl. 31, fig. 1, is rather too large, and perhaps not sufficiently azured. That of Thienemann, pl. 11, fig. 2, is much too small and too blue; it is, I think, the egg of *F. palumbarius*, (vide "Revue de Zoologie.")

Since my notice in the "Revue," one of my friends found three nests of this bird in the Vosges. The eggs were like the drawing I send you.

Dr. Alexander Savatier wrote to me from Beauvais, sur Matha, (Charente-inférieure.) 'I have killed on its nest, in a forest in our neighbourhood, a female of Jean-le-Blanc. This nest was placed upon a very high tree; it was sixty or seventy centimetres in diameter; it was composed of dry twigs; it only contained one egg, half sat upon. It was May 16th. The shell was a dirty white, and rugose. Great diameter eight cents, and little, about six cents. The peasants assured me they had seen other nests, always with only one egg, and that this was never spotted.'

Authors generally attribute two eggs to this species. He added that the bird feeds principally on reptiles; I have verified the truth of this assertion, for having opened the stomach of my bird, I found it contained a sort of ball, about the size of a partridge's egg, composed of serpents' scales."

The adult male has the upper part of the head variegated with brown spots; nape, back, and upper tail coverts ashy brown, a little lighter upon the edge of the feathers; inferior parts, under tail coverts, and legs white, with spots of a light reddish brown, more numerous and nearer together on the neck and chest, less frequent on the belly and sides; cheeks garnished with black hairs; wing coverts similar to the back, with edges of a lighter tint; quill feathers blackish brown; tail white below, above brown, and barred widely with a blackish tint, terminating in a white or whitish edge. Beak ashy black; cere and feet whitish yellow; iris brilliant yellow.

The adult female has less white on the head, neck,

and inferior parts; vertex brown; spots more numerous on the chest and abdomen.

Young birds of the year reddish brown on the head, neck, and chest; spots on the belly closer together; base of all the feathers white, as in the adult; feet greyish or livid.—(Degland.)

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—BUTEO. *(Cuvier.)*

Sub-generic Characters.—Beak small, and curved suddenly at the base; tarsi short; thighs clothed. Wings of medium length, the four first quill feathers hollowed out; the first very short, the second and third shorter than the fourth, which is the longest.—TEMMINCK.

LONG-LEGGED BUZZARD.

Falco rufinus.

Falco rufinus,	RÜPPEL.
Buteo rufinus,	KAUP. GRAY. HODGSON.
" "	BLYTH. C. BONAPARTE.
" *canescens,*	HODGSON; Bengal Sporting Journal, 1836.
" *longipes,*	JERDON; Madras Journal, 1839.
" *rufiventer,*	JERDON; Madras Journal, 1841.
The Nasal Falcon,	LATHAM.
Chuha-mar; "Rat-killer,"	HINDUSTANI.

Specific Characters.—Rufous above, dirty white below. Tarsi feathered on their upper third. Eight transverse bands on the tail.

Measurement.—Length of adult male in Norwich Museum twenty-two inches. Length of tarsi three inches.

I INTRODUCE this bird into this work upon the authority of Mr. Gurney, who has received specimens from the mouths of the Volga. The following is an abstract of Mr. Gurney's letter:—"In the Norwich Museum there are specimens from Southern Asia and the North-east of Africa, but there are also specimens from the mouths of the Volga, which is the only European locality from which I have received it; but there are probably other districts in South-eastern Europe in which it may be found.

This species is sometimes of a uniform dark chocolate brown all over. I have seen only two such examples, one from India and one from Abyssinia. This is out of at least thirty specimens of the bird which I have at different times seen; whether this is accidental or a regular plumage I cannot tell, but being so rare in proportion to those in the usual dress, I am disposed to consider it an accidental variation."

Of the habits of this bird in Europe nothing is at present known. In fact it is a mere accidental visitor, for which we are probably indebted to the proximity of the European to the Asiatic boundary. I have, however, much pleasure in introducing it into this work.

Of its habits in India we have very interesting accounts by Mr. Jerdon, in the "Madras Literary and Scientific Journal," vol. x., page 76; and by Mr. Hodgson, in the "Bengal Sporting Magazine," 1836, page 181, from which I copy the following:—

Mr. Jerdon says:—"This is certainly a rare bird. I have hitherto only seen it near Jaulnah, perched on low trees or on the ground, in fields or near water, and taking a low but short flight to another similar perch. In the stomach of the specimen I shot there

was a cricket. Mr. Elliott, who met with this species only in Guzerat, says:—'This bird evidently preys on field-rats which abound in the sandy soil of this province. He is seen sitting on low trees, or bushes over the rat-burrows, and, watching his opportunity, darts down on his victim. In the stomach of one were the exuviæ of a rat, and a large beetle.'"

Mr. Hodgson writes:—"These birds are very common in the central and northern hilly regions of Nepal, but I never procured one from below. It adheres to the woods when the crops are up, but after harvest comes into the open country, and is seen perpetually perched on a clod and looking out for snakes, which constitute its chief food. It also preys on rats and mice, and on quails, snipes, and partridges, but is reduced to take the birds on the ground. I have seen it, however, make a splendid stoop at a quail, which, after being flushed, chanced to alight on a bare spot, so as to be visible to the bird as he followed it with his eye on the wing, and marked it settle. Teal, and even ducks are frequently slain by our bird in the same way. If he can perceive them take wing, even at half a mile's distance, he is up with them in an instant, and is sure to capture them, unless they are under cover in a moment after they touch the earth."

An adult male in the Norwich Museum has the head, nape, throat, belly, and under tail coverts dirty white, with ferruginous and brown markings on the head and neck. Thighs chesnut brown. Back light ferruginous, with dark centres to each feather. Upper wing coverts hair-brown; primaries externally ash-brown, terminating in dark brown; the upper and inner half of each barb white. Tail feathers cinnamon brown, lighter in the centre, and barred slightly above,

more strongly below, with eight transverse bands of darker brown.

The figure of this bird is from a drawing by Mr. Reeve, of the Norwich Museum.

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—BUTEO. *(Cuvier.)*

AFRICAN BUZZARD.

Falco tachardus.

Falco tachardus,	DAUDIN; Tr. d'Orn ii., p. 164.
Buteo tachardus,	VIEILLOT; Dict. d'Hist. Nat. x., p. 479.
Buteo capensis,	SCHLEGEL; Faun. Jap.
Le tachard,	LE VAILLANT; Hist. Nat., des Ois., d'Afrique, p. 82., pl. 19.

Specific Characters.—Plumage of upper parts dark brown; under parts whitish, spotted with brown. Tarsi clothed in front on their upper thirds.

Measurement of adult specimen in the Norwich Museum.—Length seventeen inches and three-quarters; from carpus to tip of wing fourteen inches and a half; tarsus three inches.

THIS is another bird which I introduce into the European list, upon the authority of Mr. J. H. Gurney, who has two specimens from the mouths of the Volga, in his collection.

Mr. Gurney considers that there is no specific differ-

ence between this bird and that which is named in collections *Buteo cirtensis*, from North Africa. Mr. Gurney came to this conclusion after carefully examining a dozen specimens from the Cape of Good Hope, Mogadore, Tangiers, Erzeroum, and the mouths of the Volga.

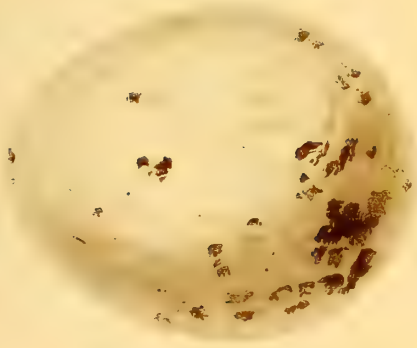
Falco tachardus is a native of South Africa, where it was discovered by Le Vaillant, during his travels there in the latter part of the last century. He only obtained one specimen, which is figured in his work. It is included by Schlegel in his Fauna Japonica, but I am not aware of its having been noticed as occurring in North Africa before, which makes Mr. Gurney's discovery of its identity with *B. cirtensis* the more interesting.

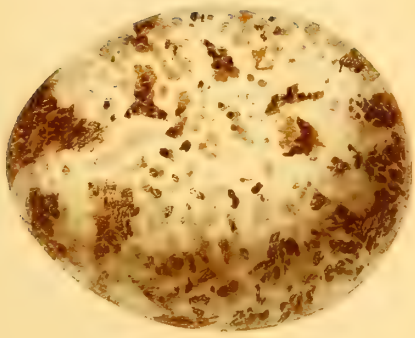
Nepal is the most eastern locality in which Mr. Gurney has known it to occur, but if Prince Charles Bonaparte and Dr. Gray are right in referring Schlegel's *B. capensis* of Japan to this species, it would appear to have a much more extensive range.

"The appearance of this bird when alive," says Mr. Gurney, "is less heavy and more elegant than that of *B. vulgaris*. My living specimen, which was dull brown when I bought it, a year ago, has moulted into a rich rufous plumage, and one that was alive in the Zoological Gardens a few years ago, underwent a similar change."

According to M. Favier, *F. tachardus* nests among the rocks, and the male takes its turn in sitting.

I have much pleasure in giving a drawing of one of the eggs sent by M. Favier. It has a strong resemblance to the egg of the Black Kite, but it is a little more pointed, and the ground colour a cream white, that of the former having a greenish tinge. I have to thank





AFRICAN BUZZARD. BLACK KITE.

ARABIAN KITE.

Mr. Gurney for the loan of this egg, now I believe, figured for the first time.

Le Vaillant, in his notice of *Le tachard*, says, "It resembles very nearly in its form the other African Buzzards, but the tail is longer and the body smaller than any of those I have described. Its beak is as weak as that of *Le rougri*, but its claws are larger and sharper, which proves in addition to its long tail and wings, that it is a more successful hunter than the others."

"It is easily distinguished from *Le rougri* and *Le rounir*, not only by the above characters, but by its tarsi being clothed with feathers beyond their middle, while in these birds they are naked. In *Le gante*, again, the tarsi are clothed entirely to the toes. *Le tachard* also has fewer feathers on the thighs. As to its colours, the head is a brown grey, brightened by some white spots on the interior of the feathers, which is the general colour of all the under parts. The throat and chest are whitish, spotted with brown; the scapularies and wing coverts are dark brown, but each of the feathers is edged by a lighter tint, which marks it out distinctly. The tail above is brown, and grey white waved with a light grey brown below. The base of the beak is yellowish; upper mandible black, and the under nearly quite yellow to the tip, which is black. The naked parts of the tarsi are yellowish, as well as the toes; claws brown. The eye was a dark reddish brown. Tail square, that is, all the quill feathers are of equal length."

Mr. Gurney writes:—"The cere, feet, and tarsi of this Buzzard are lemon-yellow; the iris is sometimes a light hazel and sometimes yellow, probably assuming the latter colour as the bird advances in age; a simi-

lar variation, which exists in the iris of the Common Buzzard, is however, not always referable to age, as I have ascertained by experience. The bill is dark lead-colour, but somewhat lighter adjoining the throat and cere."

We are indebted for the drawing from which our figure is copied to Mr. Reeve, of the Norwich Museum. It is taken from Mr. Gurney's living specimen, and consequently represents the rich rufous plumage in which his bird is at the present time. Mr. Gurney has alluded to this change of plumage in an extract I have given above. Le Vaillant's figure closely resembles his description. There is no apparent difference in the sexes.

Mr. Reeve writes:—"The crown of the head, back, and scapularies are dark ashy-brown, each feather having a narrow streak of brown down the centre, shadowed with a rusty red." This clearly identifies Mr. Gurney's bird with *Le tachard* of Le Vaillant.

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—MILVUS. *(Cuvier.)*

Sub-generic Characters.—Nostrils oblique, a fold on their outer edge. Tarsi short, feathered a little below the knee. Wings long, first quill feather much shorter than the sixth, the second a little shorter than the fifth, the third of nearly equal length with the fourth, which is the longest of all.—TEMMINCK.

BLACK KITE.

Falco ater.

Falco ater,	LINNÆUS. GMELIN. LATHAM.
" "	TEMMINCK.
" *fusco-ater,*	MEYER.
Milvus niger,	BRISSON. BONAPARTE.
" "	KEYSERLING AND BLASIUS.
Le Milan Noir,	OF THE FRENCH.
Schwarzer Milan,	OF THE GERMANS.

Specific Characters.—Beak black; only the upper third part of the tarsi feathered. Internal toe shorter than the external, the latter passing a little beyond the middle of the median. Tail slightly forked. Length twenty-two inches.—DEGLAND.

Measurement.—Length of adult male in Norwich Museum twenty inches. Length from carpal joint to tip of wing seventeen inches.

The Black Kite is, according to M. Temminck, found in Germany, but little known in France and Switzerland; very rare in the north, but more frequent in the south; very common in Gibraltar and Africa. It is also common in Japan, where it is known by the name of Tobi; specimens from this part of the world are in all respects similar to those obtained in Europe. Its true habitat is Africa, Japan, the Caucasus, and south of Russia, where it is common. It is very common in Abyssinia.

Count Von der Mühle mentions its occurrence in Greece, but rarely; and Machado includes it among the birds of Andalusia. According to M. Darracq, as quoted by Degland, it may be seen all through the year hovering over the Ardour, between Bayonne and the mouth of that river. It breeds in the neighbourhood of Troyes and in Lorraine, and is found in the Bas Languedoc and Hautes Pyrenées.

In its habits it resembles the other members of its tribe, but its principal food is fish, which it will take out of the river when dead, or plunge into to catch alive. It appears particularly fond of shad. M. Temminck says that the carrion crow will attack it, and force it to drop its prey.

It builds on high trees, and lays three or four eggs, which Degland describes as yellowish white, or very pale grey russet, with large and very small brown spots, numerous and very close to each other; sometimes they are nearly white, with large spots of an obscure red about the larger end.

The Rev. H. B. Tristram, who collected eggs and birds in Algeria in 1857, says of this bird:—"*F. ater* has a less extensive range than the Common Kite, but when found, is more plentiful. This elegant and

graceful bird exhibits some amusing peculiarities in its nidification. It has a passion for gaudily-coloured rags, which it assiduously collects and hangs in front of and around as well as in its nest. It does not appear to lay more than three, often only a single egg. A series of its eggs displays richer colouring than one either of the Common Kite or *Milvus parasiticus*, but the greatest care was taken in identifying each species."

M. Moquin-Tandon has kindly sent me a drawing from which my figure is taken, which was accompanied by the following remarks:—"This egg was given me by M. Schinz, of Zürich; it comes from the north of Switzerland, where this bird is not common. M. Schinz has figured (plate 38, fig. 4) an egg of this bird covered with very dark small brown spots, very numerous, and mingled together at the smaller end. If the species is authentic, it is a very remarkable variety. M. Thienemann (plate 11, fig. 7) has given an authentic drawing of this egg. I think, however, it is rather too large. I saw a few days ago in the Museum of Natural History, some eggs of *F. ater*, sent from Africa by M. Favier; they exactly resembled the drawing I send to you."

An adult male in the Norwich Museum has the head, neck, throat, and upper part of chest striped with brown upon a whitish grey ground. Belly rufous, with the feather shafts black; thighs and under tail coverts rich cinnamon brown, with longitudinal markings. Wings above dark brown, lighter on the scapularies; primaries black; secondaries hair brown. Tail above dark brown, underneath grey, with darker transverse bands. Beak black; cere yellow; tarsi and toes grey.

The female resembles the male, but the colours are duller.

According to Degland the young birds have the feathers of the head, neck, and wing coverts, edged with reddish white; tail without transverse bands or but slightly visible; beak brownish, darker at the tip.

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—MILVUS. *(Cuvier.)*

ARABIAN KITE.

Falco Ægyptius.

Falco Ægyptius et Forskahlii,	GMELIN.
" *parasiticus,*	DAUDIN. LATHAM.
Milvus parasiticus,	KAUP. SCHLEGEL.
" *Ægyptius,*	DEGLAND.
" *Ætolius,*	SAVIGNY.
Falco ater,	TEMMINCK. VIEILLOT.
" "	CH. BONAPARTE.
Le parasite,	LE VAILLANT.

Specific Characters.—Beak yellowish. Upper half of tarsi clothed with feathers; internal toe shorter than the external, the latter passing much beyond the middle of the median. Tail more forked than in the Black Kite. Length twenty-one inches. —DEGLAND.

Measurement.—Length of adult male in Norwich Museum twenty inches. From carpal joint to tip of wing eighteen inches.

IN the first edition of his "Manual" M. Temminck confounded this with the preceding species, and the

same error was committed by Vieillot, Ch. Bonaparte, and several other ornithologists. In his second edition in 1840, M. Temminck corrected this error, which seems to have arisen from the fact that both birds are equally common at the Cape of Good Hope and in Egypt, and at the same time pointed out that the Parasite of Le Vaillant is easily distinguished from the Black Kite by its stronger and more raised and constantly yellowish beak; by the brighter red colour of the abdomen and thighs of the adult; by the tail being more forked, and the general plumage being coloured in larger masses.

Count Mühle mentions having obtained two specimens of this bird in Greece, in the months of June and August, which had beautiful wax-like beaks,—tolerably stout,—black-banded tails, red brown thighs, and black shafts on the feathers of the abdomen. Degland says that it has also occurred in Dalmatia, and Mr. Gurney in the following abstract, hints that it has been taken in the south of France.

"The African range of this species is much the same as that of *A. gabar*, except that I rather doubt whether it is so common in Egypt, (although one of its synonymes is *M. Ægyptius*.) It is said to occur occasionally in Greece, and also in the south of France. This species when adult, is readily distinguished by its yellowish white bill; but when younger the bill is a brown horn-colour, and in that state it might easily be confounded with the *M. niger*."

The Egyptian Kite is said to be very voracious and hardy, and it will sometimes dispute with the carnivora for its prey. Its food is birds, fish, and carrion.

According to Degland, from whom the above passage

is quoted, it builds among the most elevated trees and rocks.

Its eggs are said by Le Vaillant to be four; white ground with red spots; and by Ardouin three or four; yellowish white, entirely covered with confluent brown spots, leaving the ground-work hardly visible.

An adult male in the Norwich Museum has the head, back, and under parts, of a dark cinnamon brown, lighter on the thighs; primaries and tail feathers above dark brown; tail below with nine or ten dark bands; under tail coverts cinnamon.

The female does not differ from the male. When recent the beak is yellowish with the tip black; cere bluish; feet yellow. In the young the plumage is brown and the tail almost square. Adult specimens do not differ much in plumage.

The figure of this bird is from a drawing by Mr. Reeve, of the Norwich Museum. It is taken from a living specimen, in the possession of Mr. Gurney.

RAPACES—Diurnæ.

FALCONIDÆ.

Genus—FALCO. *(Linnæus.)*

Sub-genus—ELANUS. *(Savigny.)*

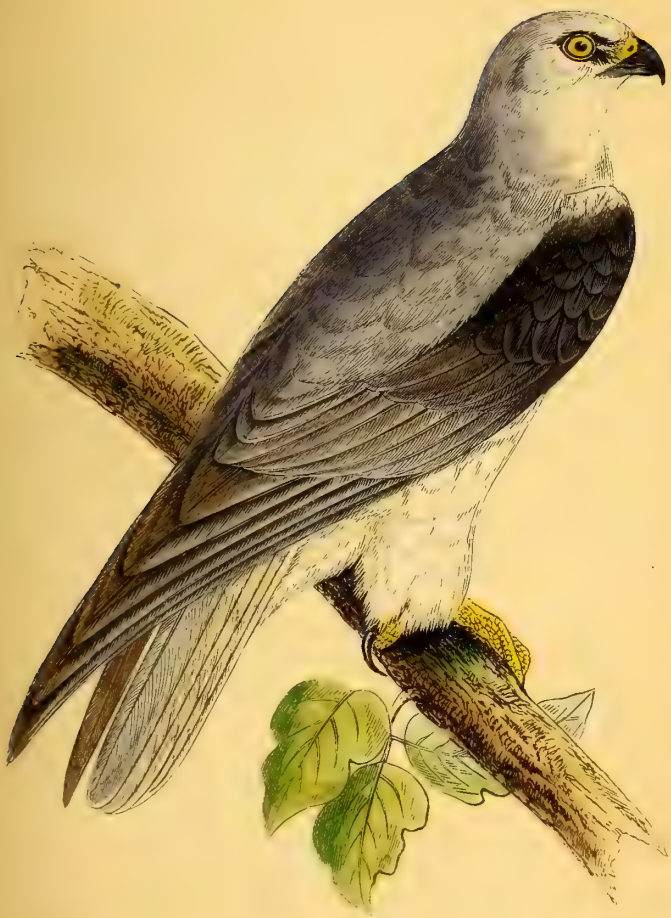
Sub-generic Characters.—Beak short, strongly bent from its origin with a very hooked tip; cere very hairy; feet short; tarsi partly feathered; toes divided. Wings long; the first and second quill feathers nearly equal, second longest of all. Tail more or less forked.—TEMMINCK.

BLACK-WINGED KITE.

Falco melanopterus.

Falco melanopterus,	LATHAM. DAUDIN.
" "	TEMMINCK. SCHINZ.
" *vociferus et sonninensis,*	LATHAM.
Elanus melanopterus,	LEACH. KAUP. GRAY.
" "	SCHLEGEL. GOULD.
" "	C. BONAPARTE. DEGLAND.
" *cæsius,*	SAVIGNY.
Elanoides cæsius,	VIEILLOT.
" *Le Blac,*	LE VAILLANT.
Falken Milan,	OF THE GERMANS.
Kupasee or Kapasi, Chanwa, and Chanwa Musaher,	HINDUSTANI.

Specific Characters.—Tail not long, nearly square; upper two-



thirds of tarsi clothed with feathers; external toe much shorter than the internal, the latter reaching to the anterior third part of the median.

Measurement.—Length twelve to fourteen inches.—Degland.

This beautiful little Falcon, so well known to ornithologists from Gould's exquisite plate in the "Birds of Europe," is the last of its family which I shall have to introduce into this work. It is an African species, forming with its congener, the North American "Swallow-tailed Kite," which is in the British lists, the only representatives of the genus *Elanus* of Savigny.

The little Black-winged Kite is found generally distributed over the Indian continent, and in Africa from south to north. It is common in Egypt, and it occurs in Java, New Holland, and also in the southern part of North America.

In Europe it is an accidental visitor. It has been found in France, Germany, and Spain, and is a periodical visitor according to Count Mühle, in Greece.

Specimens are recorded by Degland as having been killed at Cassel, in May, 1830. In the Coté d' Or it has been seen in October; and M. Crespon killed an adult male in the same month in the neighbourhood of Nimes.

It has not that I am aware of, ever been known to breed in Europe; and as its habits have been observed only in Africa and Asia, I shall again make extracts from the Madras Literary and Scientific Journal, vol. vi., page 77, in which a notice of its manners is given by Mr. Hodgson, and vol. x., page 71, where I find the following observations by Mr. Jerdon:—

"Though generally spread over India, the Kupasee is by no means common. It is most frequent in woody

districts. Its general food is insects, (chiefly grasshoppers and locusts,) lizards, and mice. I shot one in Goomsoor which was devouring the carcass of a dove; this however appeared to have been dead some time, and I doubt if it was killed by the Kupasee. It often frequents long grass and grain-fields, over which it may be seen to hover like the Kestrel."

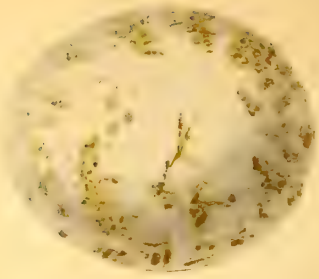
Mr. Hodgson says, "The Chanwa or Black-wing quests chiefly in the morning and evening, feeding upon small birds, insects, and mice. It does not usually seize upon the wing, though its hunting be for the most part by continual questing. Commonly it is seen skimming the cultivation like a Circus, occasionally poising itself on the wing for the purpose of getting a distincter view of some mouse, small bird, or insect which has stirred on its beat, and upon which, when clearly perceived, it stoops perpendicularly with the speed of lightning. After a while it will resort to some low roost, and when relieved commence another excursion, or perchance sit and watch there for its prey. Its forward flight is easy, low, and silent, but very effective in evolution when exertion is required to capture such nimble game as mice, which constitute its ordinary food.

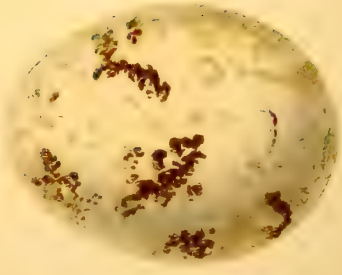
It frequently whips off insects from the stalks of standing grain, and this feat is of course accomplished on the wing.

I have also seen the Chanwa pursue Cuckoos and Sparrows with uncommon energy, but I never witnessed it strike a bird in the air.

The Chanwa doubtless can and sometimes does seize its feathered prey on the wing."

It will be seen from the above that the food of this bird is not, as stated by Temminck, exclusively insects.





From Le Vaillant we read, "It rests on the tops of trees, where the pure white of its stomach glistens in the sun; but when it flies it is by its piercing cry that its presence is announced. It lives upon large insects, such as grasshoppers, mantis, etc; and it chases the Crows and Magpies which live upon the same kind of food, with much courage from its domicile. It exhales an odour of musk very distinctly. It places its nest large and wide in the bifurcation of trees, lining it with feathers and moss, and laying four or five white eggs."

The Rev. H. B. Tristram, in his "Catalogue of Algerian Birds," says of *Falco melanopterus*:—"This beautiful bird is extremely rare in Algeria. A female specimen was the only one obtained during the spring. The egg is interesting as corroborating by its character the position of the species between *Astur* and *Buteo*. It is believed to be hitherto unknown to British collectors."

The adult male and female have the vertex, nape, and mantle ashy grey, lighter on the head. Face, front of neck, and under parts of body pure white, shaded with bluish ash-colour upon the sides of the cheek; eye-brows and a spot in front of the eyes black; wings, when folded, partly black and partly a more or less dark ash-colour, with the carpus and the edge pure white. Tail shaded with grey above, white below; beak black; iris and feet orange yellow.

Young birds.—Colours duller, with the feathers of the upper parts edged with ferruginous red; those of the under parts longitudinally marked with brown streaks or spots; wings slate-coloured, with the coverts and quills ending in a reddish white; tail ash-coloured, tipped with white. When first born they are covered

with a reddish grey down; when they leave the nest they have the head, nape, and upper parts of the body of a reddish tint; the chest ferruginous red, and the rest of inferior parts white, very slightly "watered" with a reddish tint. (Degland.)

There are four specimens in the Norwich Museum.

I have now brought to a close the description of the important and interesting family of the *Falconidæ*. I have endeavoured to make the list as correct as the present state of ornithology will permit; and I have spared no time or labour in the task. There are some species admitted whose claims may be doubted, and others omitted which a more advanced knowledge of the birds inhabiting or appearing along the boundary line may bring into the European Fauna. Of this class there are three more particularly which may be mentioned here—*Falco Peregrinoides*, *F. vocifer*, and *F. rupicolus*, to the first and last of which my attention has been kindly drawn by Mr. Gurney, of whose great practical knowledge of the family I have had such frequent cause to avail myself in the previous pages.

F. vocifer has been admitted by Schlegel into the European list on the strength of some specimens said to have been killed in Greece; but Count Mühle, our best historian of Grecian ornithology, makes no mention of its appearance there, and I think it will be admitted that the evidence is too slight. The geographical distribution of birds is a most interesting subject, and it requires great care and research to avoid that error which is so easily created by the too often doubtfully-assigned localities of birds in museums.

Of the other two Mr. Gurney thinks there is sufficient evidence to place them among the doubtful species; and as the publication of this work will extend over three or four years, there will probably be abundant materials in that time to form a supplement of really indigenous or accidental species, about which the evidence may admit of no reasonable doubt.

Order I.—RAPACES.

Division II.—Rapaces—Nocturnæ.

Family STRIGIDÆ. (Bonaparte.

Genus—Strix. *(Linnæus.)*

Generic Characters.—Beak compressed, curved from its root; base surrounded with a cere, covered altogether or in part with rough hair. Head large, much covered with feathers; nostrils lateral; eyes very large, placed in wide orbits, surrounded by stiff feathers, and provided with a *membrana nictitans;* iris brilliant. Feet amply covered with feathers, often quite to the claws; three toes before and one behind, completely divided; exterior toe reversible. Wings rather pointed; first quill feathers toothed upon their exterior edge; first quill feather the shortest, second not reaching to the end of the third, which is the longest.—Temminck.

Section I. First Division—Accipitrines.

Tail more or less long, and tapering; quest for food during the day. Head without tufts.

URAL OWL.

Strix Uralensis.

Strix Uralensis,	Pallas. Gmelin.
" "	Temminck. Schlegel.
" *litturata,*	Retzius. Vieillot.
" "	Degland.
" *macroura,*	Meyer and Wolff.
Syrnium Uralense and Ulula Uralensis,	Of Authors.
Chouette de l'Oural,	Of the French.

Specific Characters.—Head large and much feathered; facial disc round; eyes small; tail very long and tapered; plumage brown, varied with white above; white spotted longitudinally with brown below. Length twenty-three inches.—DEGLAND.

THE Owls form a family perfectly distinct and natural. In their external form, in their internal anatomy, and in their habits, they are placed by the wisdom of their Creator a group isolated among the families of the feathered tribes.

Linnæus and Cuvier, and after them Temminck, formed but one genus of these birds in their systems of classification. Modern ornithologists have divided them into at least eleven. Again I ask with all deference, is Science benefited by this somewhat pedantic extension of a simple and precise nomenclature? "It is high time," writes one of my correspondents, a well-known ornithologist, and moreover a learned and classic writer, "that a stand should be made against a system like this." I quite agree with him. I am confident the more we complicate objects in Natural History, in any branch of the Science, with a multiplicity of names, which however elegant and comprehensive, are unnecessary or devoid of simplicity, the more surely do we throw impediments in the path of those for whom all our systems are drawn up, and all our books written—the students of Nature. Holding these opinions I shall remain content with the views of the really great men to whom I have alluded, and recognise in this work but one genus for the Owls.

The Ural Owl is a native of the Arctic regions. It is common in Lapland and the Ural Mountains. According to Meisner, as quoted by Temminck, it inhabits, though in small numbers, the cantons of Berne and the

Soleure; and M. Michaelles has reported its having been several times killed in the environs of Salzbourg. It is found in the north of Sweden, is not uncommon in Livonia and Hungary, and is seen rarely in the eastern parts of Germany. It seems to be pretty nearly confined to these districts, occurring very accidentally in any other part of the world, among which exceptional localities we may name Japan.

M. Schinz, who saw alive the bird said by Meisner to have been found in the cantons of Berne and the Soleure, is of opinion that it was only a variety of *Strix aluco*, the Tawny Owl of the British list.

The Ural Owl preys principally upon birds and small animals, which towards the close of day it may be seen looking out for, among the wild forests of the desolate regions in which it lives. It builds its nest in the holes of trees, and lays four or five eggs, which are like the rest of the genus, obtuse, and of a pure glossy white.

The Ural Owl was first discovered by Pallas, in his "Journey into Russia in 1776," and was described by him in the Appendix to the French edition of his "Voyage," page 29. Dr. Latham has the following description of this bird in his "Synopsis," vol. i., page 168, sp. 37, in which he has closely followed Pallas:— Bill colour of wax; eyelids and irides black; feathers surrounding the eyes cinereous, encircled with black and white feathers, and reaching quite from the forehead to the throat; colour of the upper part of the body not unlike that of *Strix aluco*, but paler, and with scarce any undulations on the feathers; the parts beneath, except a few slender lines, are quite white; rump white; the outer edge of the three outer quills serrated the whole of their length; fourth and fifth serrated

likewise, but only at the ends; first quill shortest; tail cuneiform, and longer in proportion than in *S. aluco;* legs covered with dirty white down.

Young birds of the year, according to Temminck, have the ground plumage light grey brown, with the upper parts spotted irregularly with ashy brown, light red, and varied by white ovoid spots; the under parts marked with spots and longitudinal stripes of ashy brown; wings streaked transversely with grey; tail with seven transverse bands of a whitish ash-colour.

Mr. Gurney informs me that he has specimens of the Ural Owl from Western Sweden.

According to Middendorf, Siberian specimens are darker and more distinct in colour, and smaller in size than the European. Those from Japan are even darker and smaller than the Siberian. The Japan bird is figured by Temminck and Schlegel as a distinct species under the title of *Strix fuscescens.*

RAPACES—Nocturnæ.

STRIGIDÆ.

Genus—STRIX. *(Linnæus.)*

Section I.—First Division—ACCIPITRINES.

LAP OWL.

Strix Lapponica.

Strix Lapponica,	RETZIUS. TEMMINCK.
" "	SCHLEGEL. DEGLAND.
" *cinerea,*	GMELIN. AUDUBON.
" "	RICHARDSON & SWAINSON, in "Faun. Bor. Am."
" *barbata,*	PALLAS.
" *fuliginosa,*	SHAW. NILLSON. AUDUBON.
Ulula Lapponica,	CUVIER.
Syrnium cinereum,	BONAPARTE. GRAY.

Specific Characters.—Plumage grey, spotted and striped with brown and russet above; white, with dashes of brown below. Length twenty-four inches.—DEGLAND.

Length of specimen in Norwich Museum twenty-four inches; from carpus to tip of wing seventeen inches.

THE range of the Lap Owl is confined to Lapland, Greenland, and the northern parts of North America.

An interesting account of this bird is given in Richardson and Swainson's "Fauna Boreali Americana,"

published in 1831, where it is described at great length and minuteness by Swainson. The following is Dr. Richardson's account:—

"This bird is the largest of the North American Owls; it was first described by Latham in his "Synopsis," page 134. It is by no means a rare bird in the fur countries, being an inhabitant of all the woody districts lying between Lake Superior and latitude 67 or 68, and between Hudson's Bay and the Pacific. It is common on the borders of Great Bear Lake, and there and in the higher parallels of latitude it must pursue its prey during the summer months by day-light. It keeps however within the woods, and does not frequent the barren ground like the Snowy Owl, but hunts principally when the sun is low; indeed it is only at such times when the recesses of the woods are deeply shadowed that the American hare and the marine animals, upon which it chiefly preys, come forth to feed. On the 23rd. of May I discovered a nest of this Owl built on the top of a lofty balsam poplar, made of sticks and lined with feathers. It contained three young, which were covered with whitish down. We got them by felling the tree, which was remarkably thick; and whilst this operation was going on, the two parent birds flew in circles round the objects of their care; keeping however so high in the air as to be out of gunshot: they did not appear to be dazzled by the light. The young ones were kept alive for two months, when they made their escape.

They had the habits common also to other Owls, of throwing themselves back and making a loud snapping noise with their bills when any one entered the room where they were kept."

To this account Mr. Swainson adds, "This bird has

the posterior half of its bill covered with cere, rounded or swelled out on the sides, and very slightly arched on the ridge; the curved point moderately compressed, much resembling that of *Strix brachyota*. Its auditory concha is much larger than that of *S.* (*Bubo*) *Virginiana*, but very considerably less in proportion than that of *S. brachyota*, though the operculum is larger than in this bird."

Although described as common in the fur country by Richardson, it is rare in the United States. Audubon only records two instances of its capture, and he saw it once or twice. His figure of the bird is taken from an unusually large female, thirty inches long and forty-eight inches and a half across the wings, in the Gardens of the London Zoological Society. The following is his account of the habits of one of the specimens captured alive, as related in his "American Ornithology," vol. iv., page 364:—

"No where common in America, but ranges from the north-east coast of the United States to the source of the Columbia River. One of these birds was taken alive, February, 1831, at Mablehead, Massachussets. I went to Salem to see it, but it had died, and I could not trace the remains. Mr. Ince, in whose keeping it had been for several months, fed it on fish and small birds, of which it was very fond. It uttered at times a tremulous cry, not unlike that of *Strix Asio*, the Little Screech Owl, and shewed a great antipathy to cats and dogs.

The comparatively small size of this bird's eyes renders it possible that it hunts by day, and the marked smallness of its feet and claws leads me to think that it does not prey upon large animals."

This last inference of Audubon is not in accordance

with the account given by Dr. Richardson, nor of that by Pennant, in his "Arctic Zoology," vol. ii., page 232, who says, "Feeds on mice and hares. Flies very low, and yet seizes its prey with such force that in winter it will sink into the snow a foot deep, and with great ease will fly away with the American hare alive in its talons. It makes its nest in a pine tree in the middle of May, with a few sticks lined with feathers, and lays two eggs spotted with a darkish colour. The young take wing the end of July. Length two feet, extent four."

With regard to this remark of Pennant, that the eggs were "spotted with a darker colour," there is no doubt that it is a mistake, and that some adventitious spots, probably of dirt or blood, had existed on the eggs which he described. I believe there is no exception to the family characteristic of the Owl's eggs—they are all of a pure white.

Mr. Wolley, whose great zeal and practical knowledge as a naturalist I have had occasion to notice before, has found the nest and taken the eggs of the Lap Owl in Lapland, and I have much pleasure in quoting here an abstract of his paper, published in the Proceedings of the Zoological Society for March, 1857, page 56:—

"Two nests of the Lap Owl were found in Finnish Lapland, in 1856. In one near Sodankyla there were two eggs, and when one of the birds was shot, a third egg was found ready for exclusion. They were placed on the jagged end of the stump of a large Scotch fir, about twelve feet from the ground, at which spot the tree had been snapped across by some storm, the upper part not yet entirely separated, but sloping downwards till the greater part of its weight was supported by the ground.

The other nest was near Annasjoki, at the top of a lowish Scotch fir. Some time previously in the same year a bird had been shot at this spot, which was found to be a female with eggs inside. The nest was not observed until after the shot was fired. At the second visit, on the 28th. of May, there were two eggs in the nest, and again a bird was shot, which turned out to be another female, with a fully-formed egg inside, through which the bullet had passed. The skin is now in England. The birds seemed on both occasions remarkably fearless.

The eggs are smoother, and, as might be expected, considerably smaller than those of the Eagle Owl. The dimensions of the two in the last-mentioned nest are 2 in. by 1.6 in., and 2.1 in. by 1.65 in.

At the Meeting of Scandinavian Naturalists in Christiana, last summer, before I heard of these two nests having been found, I was able to announce that the Lap Owl generally makes its nest on the top of a stump. I had received several reliable accounts from different woodsmen, but had never found a nest myself, or been able to get the eggs, which indeed have, I believe, hitherto been unknown to ornithologists. It appears that three is the ordinary number of eggs."

In his Catalogue of Eggs, sold by Mr. Stevens, in 1858, Mr. Wolley accounts for the proportionate smallness of the egg, by the fact that the size of the Lap Owl is very much made up by an unusual quantity of feathers, with which it is provided to protect it against the extreme cold of the region in which it lives. He also says the number of eggs is four.

The male and female of the Lap Owl have the upper parts grey, with brown and reddish spots or streaks in zigzags, and others white on the scapularies.

Under parts and under tail coverts whitish, slightly tinged with a reddish tint; sides of the chest are irregularly covered with numerous longitudinal brown spots and transverse zigzag lines or stripes; the legs and feet are striped in the same way with brown and white; face streaked with brown upon a bluish grey ground, and encircled by feathers variegated with black, white, or red; quill feathers crossed transversely with ash-coloured bands, variegated on the inner barbs by irregular lines of a reddish tint, and others of dark brown; towards the end of the quill feathers the colours are darker. Tail brown, crossed by wide ash-coloured bands, spotted and striated irregularly with brown; beak yellow, a great part of it hidden by the feathers of the face.

The Lap Owl has been figured by Dr. Richardson in "Fauna Boreali Americana;" Audubon, "Birds of America;" Gould, "Birds of Europe;" and Nilson, in his "Fauna Scandinavia."

RAPACES—Nocturnæ.

STRIGIDÆ.

Genus—STRIX.

Section I. Second Division—NOCTURNES.

Habits Nocturnal.

LEAST EUROPEAN SPARROW OWL.

Strix pusilla.

Strix pusilla,	DAUDIN; Traité d'Ornithologie, ii., p. 205. (1800.)
" *passerina,*	LINNÆUS; (Fauna Suecica and Systema Naturæ. 1761.)
" "	SCHLEGEL. DEGLAND.
" *acadica,*	GMELIN; Syst. (1788.)
" "	TEMMINCK; Man. (1820.)
" "	SCHINZ; Europ. Faun. (1840.)
" *pygma,*	BECHSTEIN; Naturg. Deut., ii., p. 978. (1801.)
" "	VIEILLOT.
Glaucidium passerinum,	BOIE; Isis. (1826.)
" "	BREHM; Vög. Deut., i., p. 108, t. 8, f. i.
" "	C. BONAPARTE. (1838.)
Surnia passerina,	KEYSERLING AND BLASIUS; p. 32. (1840.)
Athene passerina,	GRAY.

La Chevechette,	Le Vaillant; Ois: d' Afrique, pl. 46.
Petite Chouette d'Uplande,	
and Chouette d'Acadie,	Of the French.
Gemeiner Sperlingskauz,	Of the Germans.

Specific Characters.—Upper part of body greyish brown, punctured with white spots. Inferior parts whitish, with longitudinal brown markings. Tail feathers marked with four or five large white spots on the inner barb, smaller on the outer, forming in the male four white bands, and in the female three. The smallest of European Owls. Length, male six inches, female about seven inches.

It is not without considerable hesitation that I have applied Daudin's name to designate this bird, which is the true *S. passerina* of Linnæus. By the rule of priority, the name given to it by the distinguished naturalist by whom it was first described, ought to be retained. But this rule, like all others, is open to an exception, and my excuse for breaking it in the present case, is, I think, a sound one. All the English ornithological writers, with the exception of Mr. Gould, who adopted Nilson's name *S. nudipes,* have applied Linnæus's designation to a closely allied but totally different species, the *S. psilodactyla* of Linnæus, the *Athene noctua* of modern authors, a bird in the British lists, so well described and figured as the Little Owl by Yarrell. Much confusion must necessarily result among English students, by having two birds at sight similar to each other designated by the same name.

Temminck adopted Latham's name, *S. acadica,* to designate this bird; but it is quite certain that the *S. acadica* of Latham is the North American species, a

bird not known in Europe, and named, as Mr. Newton suggests, after its habitat Acadie, that is, Nova Scotia. I think then I have good reason for restoring Daudin's name, while at the same time I fully admit the priority of Linnæus, and regret the necessity which the erroneous designation of previous writers has forced upon me.

There are several "Little Owls" which may, more or less, be confounded with each other. I will briefly notice some of these, so that the ground may be cleared, I trust, of all obscurity or doubt:—

S. pusilla.—The subject of the present notice, and the synonymy of which I have given at length above. The *S. passerina* of Linnæus.

S. psilodactyla of Linnæus, Brehm, and Degland; the *S. passerina* of Gmelin, Latham, Meyer, Wolff, Temminck, Vieillot, Schinz, and the English authors. *S. noctua* of Retzius and Schlegel. *Noctua passerina* of Cuvier, and the *Athene noctua* of Gray. This bird, the Little Owl of the English lists, is readily distinguished from *S. pusilla* by its greater size, shorter tail, different disposition of colours, and by the shortness of the feathers on the tarsi, and the substitution of down for feathers on the toes. It is figured by Edwards, Lewin, Gould, Yarrell, and others. It is fully one-third larger than *Pusilla*.

S. acadica of Gmelin, and *S. acadiensis* of Latham. A North American species, well figured by Wilson in his "American Birds," and afterwards by Audubon, pl. 199. Figured also by Latham in his "General Synopsis," vol. i., pl. 5, fig. ii.; and described at length by Swainson, in the "Fauna Boreali Americana," Birds, p. 97, in which its distinction from any of the European species is clearly established. This is the *Nyctale acadica* of Bonaparte, and of Gray's list; it

is designated *Strix passerina* by Wilson, and *Ulula acadica* by Audubon.

Athene perlata, figured and described by Le Vaillant, in his "Oiseaux d' Afrique." This is the *Noctua occipitalis* of Cuvier, the *Strix perlata* of Vieillot, and the *S. occipitalis* of Temminck.

This beautiful species is apparently but little larger than *S. pusilla* when Le Vaillant's two drawings are compared. It is in fact however altogether, particularly in the head, a larger-formed bird. It is readily distinguished by this character alone when the skins are examined together. In addition the white spots are shaded with black, so as to give them the appearance of pearls, and hence Le Vaillant's name, *Chevechette perlata;* the tarsi and toes are covered with down instead of feathers; the primaries are barred with three bands of russet on a black ground, and the spots on the tail form seven white bands.

In addition to the above I may mention *Surnia passerinoides* of Audubon—"The Little Columbian Owl"—which is about the size and has a good deal of colouring similar to that of *Pusilla*, but it is darker, and the white spots on the head and wing coverts are replaced by chesnut. Those on the tail feathers are like *Pusilla*, largest on the inner barb, but they form six white rather curved bands; the tarsi and toes are feathered as in *Pusilla*. It is a closely allied but perfectly distinct species. I need not say anything about the other two South American Sparrow Owls, *Athene nana* and *A. pumila*, as they are not likely to be confounded with *S. pusilla*.

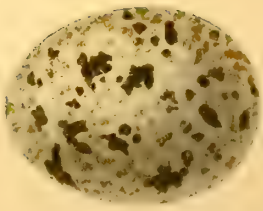
S. pusilla is an inhabitant of North-eastern Europe. It is stated by Degland to occur in North America, but I believe this to be a mistake. It is excluded from

the American list by C. Bonaparte, and is not that I am aware of described by any of the American authors. It has doubtless been often confounded with the *Strix acadica* of that continent. It is found in Lapland, in the Carinthian Alps, in Switzerland, and rarely in the North of Germany. It is included by Nilson in the Scandinavian Fauna, under the name of *Sparfs uggla.* A *Strix passerina* is mentioned by Machado as occurring in Andalusia, but whether it is the bird I am noticing or not I cannot say.

Mr. Wolley says that as far as he is aware no small Owl, except *Strix Tengmalmi*, occurs in Lapland. Degland says however, "*J' ai reçu un sujet de la Suisse, et deux autres (male et femelle) de la Laponie, par l' entremise de M. Sundevall.*"—Eur. Orn., vol. i., page 137.

According to Temminck, this little Owl feeds upon mice, grasshoppers, beetles, and lepidopterous insects. It builds in pine forests, or in the crevices of rocks, and lays two white eggs.

An adult male in the Museum of the University of Edinburgh has the upper parts of the body of an ashy brown, punctured on the head and nape with numerous dull white spots. The feathers of the back, scapularies, and upper tail coverts are marked with reddish white. Inferior parts white, with longitudinal confluent brown spots, streaked with reddish on the sides of the chest. There is a white space forming a kind of incomplete collar on the throat and sides of the chest. Wings marked with spots and dots in whitish stripes; tail brown, with four white transverse narrow bands; beak lead-colour, tipped with yellow; tarsi and toes thickly clothed with white feathers, dashed and spotted with red; claws black. According to Degland the iris is yellow.



1. LEAST EUROPEAN SPARROW OWL.

2. EGYPTIAN EARED OWL. 3. BLACK JACKDAW.

An adult female in the Norwich Museum has the head and back chesnut brown; nape variegated with white; face grey; throat and belly white, nearly covered with light chesnut markings; primaries spotted with white; tail colour of back, with three spotted transverse bands; under tail coverts white.

Figured by Le Vaillant in "Ois: d'Afrique," pl. 46; Gould, pl. 50; Nilson, "Faun. Scand.," pl. 3; Naumann, pl. 43.

Our figure of this bird is from the drawing of a specimen in the Museum of the University of Edinburgh, done with great exactitude by my wife.

The figure of this egg is from a drawing sent to us by M. Moquin-Tandon, with the following remarks:— "This drawing was sent to me by M. des Murs, and is taken from an egg in his collection. Of all the Night Birds of Europe this species has the most elongated egg. M. Thienemann (pl. 3, fig. 2,) has given a drawing of an egg of this species, of which the smallest end appears to be rather too pointed."

RAPACES—Nocturnæ.

STRIGIDÆ.

Genus—STRIX. *(Linnæus.)*

Section II.—HORNED OWLS.

EGYPTIAN EARED OWL.

Strix ascalaphus.

Strix ascalaphus,	VIEILLOT. TEMMINCK.
" "	DEGLAND.
Bubo ascalaphus,	SAVIGNY. GRAY.
" "	AUDUBON.
Otus ascalaphus,	CUVIER.
Ascalaphia Savignyi,	GRAY. TEMMINCK ET LANG, pl. col. 57.
Hibou à huppes courtes,	OF THE FRENCH.
Kurzöhriger Uhu,	OF THE GERMANS.

Specific Characters.—Head rather small; beak slender and hidden; facial disc incomplete; two tufts very short, just behind the eyes; tarsi long, feathered to the toes; two glabrous scales at the extremity of the hind toe.

Length nineteen inches.—DEGLAND.

THIS Owl was first described by Savigny in his work upon the Birds of Egypt, published in 1809. It is a species confined almost entirely to Africa, but having been accidentally found in Sicily and Sardinia, it has

obtained a place in the European list of Birds. It was stated by Pennant to have been taken in Scotland.

Mr. Gurney says of this bird, "It is probably identical with *Bubo Bengalensis* of India; but I cannot speak positively, having never had the opportunity of examining an African or European example."

So little is known of the habits of *S. ascalaphus*, that I may be excused if I quote here extracts of the habits of *Bubo Bengalensis* in India, because if Mr. Gurney's impression of the identity of the two birds should not prove correct, it is most probable that the habits of species so closely allied are very similar:—

"The Googoo is the most abundant and universally-spread of the large Owls of India. In the Carnatic it frequents rocky barren hills chiefly, where several may often be seen seated even for some hours after sunrise. In the Deccan it frequents rocky ravines, banks of rivers, and holes in the steep sides of the precipitous trap hills; also often found about old buildings, forts, and walls. On the Neilgherries it is however found in dense woody glens. Though partially diurnal, it chiefly preys during the night; its chief food is rats and lizards; occasionally birds, crabs, and frequently large locusts.

I have had a pair of this species, male and female, in my possession. Their usual cry is a loud, clear, and prolonged hoot. I occasionally at night heard them utter a low indistinct strangling sort of cry. They vomit bones and feathers in the form of pellets."—Jerdon, "Madras Journal," L. S., x., p. 87.

"The habitation of this bird is sometimes in a hole or burrow in a bankside, in which they always breed, and sometimes their domicile consists merely of a perch upon the stunted trees growing from rocky declivities.

It breeds in March, and the young as soon as fledged resemble their parents; the brood consists invariably of two."—Hodgson, "Asiatic Researches," xix., p. 170.

The Hon. F. J. Shore, as quoted by Mr. Gould, in his "Catalogue of Himal. Birds," says, "Builds in trees, the nest being composed of large and small sticks, the female laying two large eggs mottled with black, reddish brown, and white. Its native name in the Doon is Hokra Cheel, the natives considering it among the Cheel or Kite genus, and affirming that it is strong enough, and does in fact, attack and kill wild cats."

The description of the egg here given would lead to the inference that the bird mentioned by Mr. Shore did, as the natives surmised, actually belong to the Kite genus.

Strix ascalaphus is figured by Cuvier in the Regne Animal; Temminck, Gould, etc.

In the adult the body, wings, and tail are of a reddish white, variegated in different shades, and covered with spots and streaks of a black brown, lanceolate upon the head and nape, in great blotches on the wings, and in large bands or narrow zigzags on the primaries and tail quills. On the chest these marks are in the form of elongated drops, and upon the other inferior parts, of fine transverse zigzags; tail transversely barred with four or six narrow streaks of a blackish brown; under parts white; throat and middle of chest white; tarsi very long, clothed as well as the toes with a whitish down; beak black; iris yellow.

It is included in Captain Loche's "List of Algerian Birds," published in 1858; and there is also a notice of its capture in Egypt, by Mr. E. C. Taylor, in the "Zoologist," 4442.

The figure of the egg of this bird is from a drawing

sent us by M. Moquin-Tandon, with the following remarks:—"This drawing was also sent to me by M. des Murs, when he had his collection. I do not know the country in which it was taken. I have since obtained an egg of this bird from Sardinia, which resembles exactly that of the drawing I send you."

With this bird I terminate my description of the European Owls. Schlegel has admitted into the Catalogue another small Owl, under the name of *Strix noctua meridionalis*, the *S. noctua* of Forskal, *Noctua glaux* of Savigny, and *S. passerina* of Rüppell. This is however generally believed by naturalists to be only a pale variety of our Little Owl, *(Strix noctua.)* It is found in Spain and Egypt. Most naturalists have also admitted into the list *S. nebulosa*, the Barred Owl of Pennant, a North American species, well described in "Fauna Boreali Americana," and in Audubon's and Wilson's works. It is said to have been taken in the extreme north of Europe, but I can find no authentic account of its capture. It is admitted with great doubt by Degland, and omitted by Schlegel. It does not appear to have been observed by any of the northern naturalists; and M. Sundevall, as quoted by Degland, says it has never been observed in Europe, but that it was admitted into the Catalogue by an error in the name.

My attention has been drawn by Mr. Gurney, to the following extract from "Naumannia," a German ornithological periodical, for 1852:—

"*Strix capensis*, Smith, (not Lath.,) occurs as a stationary bird along the coast of Northern Africa, from Tangiers as far as Morocco, in broken and marshy

low grounds, exactly as our *Strix brachyotus*. A friend of mine, M. Garstensen, C. M., in Copenhagen, who was staying in Tangiers as ornithological collector during the last winter months, and who has recently returned with many well-prepared birds' skins and eggs, assured me that this Owl inhabited also the neighbouring coasts of Spain, and that he had observed it upon its flight to and fro, an assurance which given by so intelligent as well as conscientious and truth-loving a man, leaves no doubt whatever; the more so since M. Garstensen, a son of the former consul in Morocco, where he was himself born and educated, is thoroughly acquainted with the language of the natives, and he at the same time conferred upon the subject with a French collector."

Mr. Gurney thinks the bird alluded to was the *Otus capensis* of Smith, "Birds of South Africa," plate 67, as he has frequently received this bird from Tangiers. I think the statement of Kjoerbolling much too indefinite to permit the introduction of either *Strix* or *Otus capensis* into the European list. I draw however the attention of naturalists to the subject, and shall be glad to hear from any of them who can afford me any positive information upon it.

I take this opportunity of correcting one or two errors in Part VII:—*Falco tachardus*, though alluded to as *F. capensis*, is not stated by Schlegel to be an inhabitant of Japan. When I wrote this notice I had not access to Schlegel's work, but I took the synonyme, which is however correct, from Bonaparte's "Consp. Gen. Avium," and drew the natural inference, that as Bonaparte had given Schlegel's "Fauna Japonica" as his authority for the synonyme, the bird was a native of Japan. Nepal will therefore remain at present the eastern limit of this species.

The second mistake arose from the position of *E. leucurus* in Bonaparte's "Comparative List of North American and European Birds." Being placed exactly opposite to *E. melanopterus*, I took it without sufficient consideration as an intended synonyme of the latter, which does not occur in North America. Mr. Gurney also thinks that *M. ater* has never been taken south of the Equator, or from any locality further east than Affghanistan.

Order II.—OMNIVORÆ.

Family CORVIDÆ. (Bonaparte.)

Genus—Corvus. *(Linnæus.)*

Generic Characters.—Beak straight to its base, thick, compressed laterally, bent towards the tip, edges cutting. Nostrils basal, open, hidden by hairs, and directed forwards. Three toes before and one behind, nearly completely divided. Tarsi longer than the middle toe. Wings acuminated; first quill feather least in length, second and third shorter than the fourth, which is the longest.

BLACK JACKDAW.

Corvus monedula-nigra.

Corvus monedula-nigra,	Frisch. Vorst: der Vogel Deuts. (1739-63.)
" "	Linnæus. Gmelin. Brisson; Ornith., v. ii., p. 28. (1760.)
" "	Schlegel; Revue. (1844.)
" *Spermolegus,*	Vieillot; Dict. (1817.)
" "	Temminck; Man. (1835.)
" "	Keyserling et Blasius.
" "	Schinz. Degland.

Specific Characters.—First quill feather longer than the ninth; second shorter than the fifth; third and fourth equal. Length twelve inches six lines.—Temminck.

It has been doubted by some modern ornithologists whether this bird is really distinct from, or only as considered by Latham, a variety of the Common Jackdaw. Degland says:—"This is a very doubtful species, I have never seen it. An individual, said to be this species, killed in a garden at Bergues, I am convinced is only a variety of the Common Jackdaw. The specimens indicated by M. Millet, in the 'Faune de Maine-et-Loire,' are also Common Jackdaws, according to M. de Lamotte, by whom they have been examined. Vieillot said that a young individual was in the cabinet of the Count di Riocourt, and an adult in the Museum of Natural History at Paris. M. Selys Longchamps has examined the Paris specimen and found it different, but thought that it had come from North America, because he found it formed part of a lot of skins bought in Poland, and among which were some American species,—among others *Sylvia anthoides*."—"Orn. Europ.," vol. i, page 321.

But this after all is only negative evidence, and not of a very strong kind—for this species is not included among Prince C. Bonaparte's "Birds of North America." Schlegel admits it into the European Catalogue, but refrains from making any remarks upon it, because he had never seen the bird; and it is not included in Machado's "List of the Birds of Andalusia," published in 1854, though Spain has been said to be its head quarters.

On the other hand it has been admitted as a species by Frisch in 1739-63; by Gmelin; by Brisson in 1760; by Vieillot in 1817; Temminck in 1835; and Bonaparte, Schlegel, etc., of more modern days.

Brisson, one of the most correct naturalists that ever lived, describes it very minutely and clearly. Tem-

minck gives a diagnosis, which as will be seen by reference to that of our Common Jackdaw, establishes an important distinction between the two birds. Under these circumstances, I think the time has hardly arrived at which it may safely be excluded from the European species; though I admit it with doubt.

It is said by Vieillot to be found inhabiting and breeding in several of the French provinces, and Temminck says he has been assured that it is common in Spain. Nothing appears to be known of its habits or propagation.

The following is Brisson's description:—"A little less than the Common Jackdaw. Length from tip of beak to end of tail twelve inches and a half, and to the end of the claws eleven inches and three-quarters. Beak fourteen lines; tail four inches and three-quarters; tarsi one inch six lines and a half. From middle of three anterior toes to their junction with claws six lines; the two lateral toes the shortest; hind toe intermediate between them and middle toe. Wings extend to three-fourths of length of tail. The whole of the body covered with brilliant black feathers. Primaries same colour above, beneath like all the under parts, not so splendid a black as the upper. First primary shortest, fourth longest of all. Tail composed of twelve feathers, same colour as secondaries, namely, brilliant black above, duller black below. There is on each side of the head a crescent of a deep black, of which the concave part is turned towards the eyes. The feathers covering the nostrils are long and thick. The eyes are surrounded with small white points; pupils black, irides bluish. Beak, feet, and claws black.

Habitat, ruined towers and walls, where it builds. In the Museum of M. de Reaumur."

In this description it will be seen that Brisson differs from Temminck in the length of the primaries. First shortest, fourth longest; while Temminck says:—"First quill longer than the ninth, third and fourth equal."

The following is M. Temminck's diagnosis of *C. monedula*, the Common Jackdaw:—"First quill shorter than the ninth, second and fifth equal, the fourth shorter than the third."

Figured by Buffon, pl. Elum 522; Roux, Orn. Prov., pl. 133; Gould, Supp., pl. B. of E.

Order II.—OMNIVORÆ.

Family CORVIDÆ. (*Bonaparte.*)

Genus Pica. (*Brisson.*)

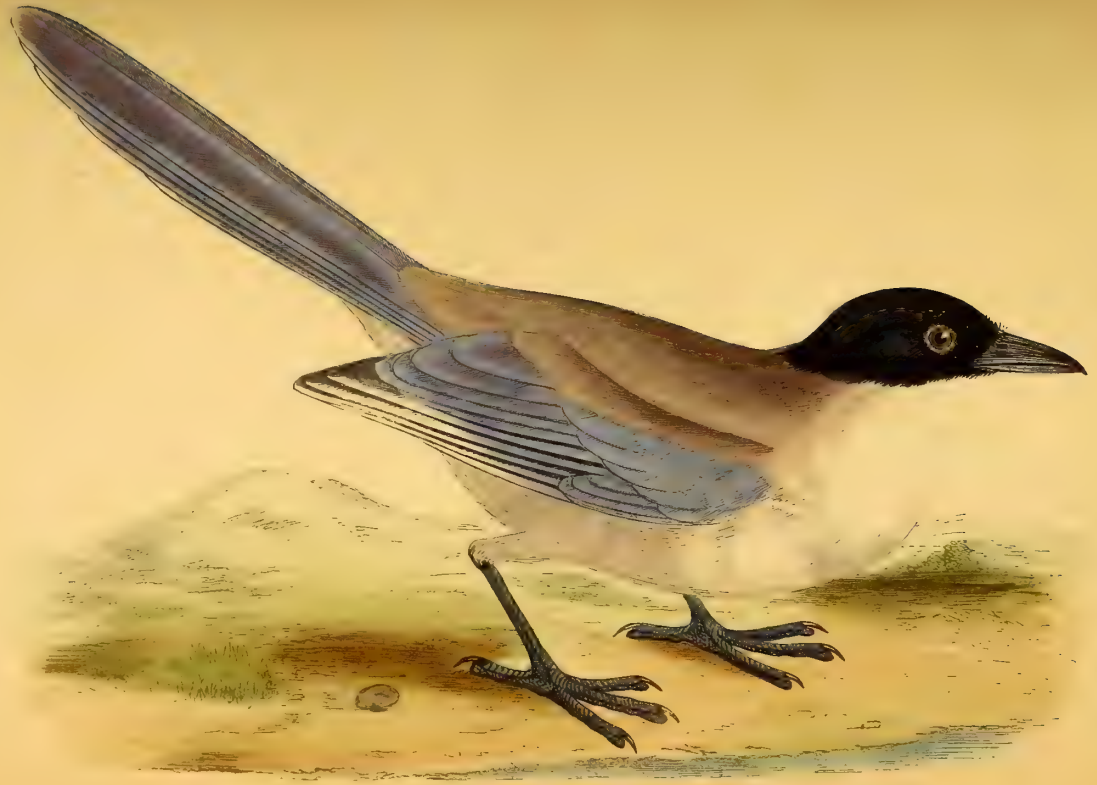
Generic Characters.—Beak middle-sized and strong, compressed laterally, slightly arched, hooked at the tip, and garnished at its base with short stiff feathers; nostrils oblong; middle and external toe united at their origin. Wings short and rounded; first quill feather very short; fourth or fifth longest. Tail long and graduated.

AZURE-WINGED MAGPIE.

Pica Cyanea.

Pica Cyanea,	Wagler; Syst. Av. (1827.)
" "	Bonaparte. Schinz. Schlegel.
Corvus Cyanus,	Pallas; App. to Voyage. (1776.)
" "	Latham. Gmelin.
Garrulus Cyanus,	Temminck.
Pica Cyana,	Keyserling et Blasius.
" "	Degland.
Pie turdoides,	Of the French.
Blaue Elster,	Of the Germans.
Blue Crow,	Latham.

Specific Characters.—Head deep black; wings and tail blue; apex of quill feathers white. Length of adult male and female twelve to fourteen inches.



This bird, the most beautiful member of its family, is an inhabitant of Spain, and, according to the celebrated traveller Pallas, of Eastern Asia. It is found in the Crimea and in Japan, in the northern part of which empire it is common. It is not identical with the species found in Africa by Le Vaillant; and Degland says that specimens which he has examined from the Caucasus are larger, and have not the tail feathers tipped with white like the Spanish individuals.

In the "Revue et Magazin de Zoologie," for May, 1858, M. Pucheran remarks that an individual of this species, presented to the National Collection of France, by M. Leclancher, from Nankin, has the first quill feather much shorter than specimens from Shang-Hai and Japan, and that the secondaries are shorter also. He asks ornithologists who have many specimens to compare, to note this fact, as he thinks if this is found to be a constant difference, that these Nankin specimens may constitute a new species.

In its habits the Blue Magpie differs little from its congener, our well-known British Bird, but Temminck says that it more especially feeds upon insects.

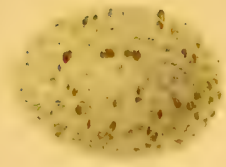
According to M. Riocour it builds in Spain in trees; its nest composed of slender sticks. He does not state the number of eggs, but we may presume they are the same as our Magpie—five or six, rarely seven, very rarely eight.

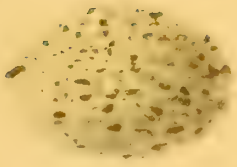
In an interesting series of papers which he is publishing on the Nests and Eggs of the South of France, in the "Revue de Zoologie," M. Moquin-Tandon has one upon the nidification of the Common Magpie, (March, 1858, p. 98,) which will bear one or two extracts here, notwithstanding the subject is so familiar to every bird-nesting youngster in this country.

The nests are of three principal forms. First, horizontal cup-like nest, not domed. Second, the same shape, but with one side raised. Third, an irregular spherical nest, with a dome more or less thick, and a lateral opening. Of fourteen nests, nine had the first form, three the second, and two the third. All the nests were upon large trees—poplar, oak, beech, chesnut, and walnut. Those with a raised side were fixed in forked branches, and on the side which had most support, the screen or covering was placed. One nest only, which was in the broken branch of an Italian poplar, had this covering without any support, but it was not so high as usual. The screen had always a reference to the prevailing wind. The two nests protected by a dome differed from each other; in one the covering was almost transparent, whilst in the other it was thick so as to keep out rain. One of these last had a transverse diameter of twenty-two centimetres, (eight inches and four-fifths,) and the opening seven centimetres high.

These nests were formed outside of little sticks and thorny branches. In the framework of the largest was the branch of a plum tree as thick as one's finger, and forty centimetres (sixteen inches) long. In four nests the materials were united by clay mortar. All were lined with flexible roots, stalks of grasses, wool, and feathers."

Of one hundred and eighty-seven eggs examined by M. Moquin-Tandon, one hundred and eleven had the ordinary size, (thirty to thirty-two millemetres by twenty to twenty-five;) sixty-six were a fifth or sixth less; one only a third less; one without yolk; five increased in length both ends alike; four obtuse and much shorter. These one hundred and eighty-seven eggs differed in





colour as follows:—One hundred and thirty-five were of the natural colour, that is, dirty white, more or less clear, with spots of olive brown and dark green, particularly at the greatest end. Twenty-seven had few spots, and a well marked circlet at the greatest end. Four with a circlet well-marked at the smaller end, of which one had the rest covered with spots. Eleven were finely dotted, principally at the larger end. Four had three or four dots slightly marked about the large end. Three were greenish, without spots. Two bluish, without spots. One dirty white, without spots, and a slight blue shade.

The Azure-winged Magpie is stated by Latham to build its nest in the same manner as the Common Magpie, which will give the above quotations sufficient interest to justify my inserting them here. He also says that it is a very timorous bird, and withal a noisy, crafty, clamorous species. It appears in the eastern part of Asia in flocks in April.

The adult male and female have the top of the head as far as the nape a deep glossy black; mantle, back, and scapularies, ash-colour; throat and front of neck pure white; crop, flanks, and belly, greyish ash, whiter in the middle; wings and tail of a brilliant azure blue; quill feathers black, the first entirely, but the rest bordered with azure at the base, and tipped at the points with white; first quill feather half as long as the second. Tail blue, tipped with white. Beak and feet black.

Figured by Gould, Azure-winged Magpie.

OMNIVORÆ.

Family CORVIDÆ.

Genus GARRULUS. *(Brisson.)*

Generic Characters.—Beak medium size, thick, straight, compressed, with cutting edges, abruptly bent, and slightly dentated at the tip. Nostrils basal, lateral, and hidden by setaceous feathers; feet like the crows. Wings of medium length, rounded; first three quill feathers graduated, the fourth, fifth, and sixth of nearly equal length, and the longest in the wing. Tail square or slightly rounded; feathers of the head elongated, and capable of being raised into a tuft at will.

BLACK-HEADED JAY.

Garrulus melanocephalus.

Garrulus melanocephalus,	GENE; Mem. della Acad. di Torino. Vol. 37, p. 291. with figure. (1840.)
" "	TEMMINCK.
" *glandarius melanocephalus,*	SCHLEGEL.
" *iliceti,*	DEGLAND; after Russian authors in litt. (1846.)
Geai à culotte noir,	OF THE FRENCH.

Specific Characters.—Beak, chest, and sides ferruginous; greater

wing coverts blue, crossed with transverse lines of black and white; forehead, throat, and cheeks white; top of the head black.

Length eleven inches and a half; tail five inches and a half.—Gené.

Somewhere about the year 1837, M. Crolla, a medical man and chemist, attached to Monseigneur Lorano Evèque d'Abido, shot two Jays on the Monto Libano, near Balbeck. He took them to the celebrated Professor Bonelli, of Turin, who declared them to be a distinct species, and gave them the name of *Corvus melanocephalus*. Subsequently, in 1840, they were described and figured in the "Memoires della Acad. di Torino" under the name of *Garrulus melanocephalus*.

Such is the origin of this bird's scientific career, which has now lasted eighteen years, during which time its name, as will be seen by its synonymic biography, has been changed by at least two systematic writers. Fifty or a hundred years hence, when it has attained a long tail of names, some compiler of the ornithological dust and ashes of the past will probably discover that after all it is only a variety of the Common Jay, and consign it, like the Black Jackdaw, to specific oblivion.

In the meanwhile let us see what are its present claims. Gené, who is a good naturalist and a careful writer, the worthy successor of Bonelli, says of it, "The description I have given of this bird proves its strong affinity with the Common Jay. The colour of the body and its members is absolutely the same, if it were not for the lines, white, blue, and black, which embellish the greater wing coverts. But it is easily distinguished in a positive manner by the colour and relative size of the head. In the Common Jay the forehead and crown of head are white, simply spotted with black. In this species, on the contrary, the forehead is white, but the

top of the head is entirely black. The cheeks in the common species are the same colour as the back—reddish grey; in this they are white like the throat. The Common Jay is considerably longer (quite two inches) than our species."

The Black-headed Jay is an inhabitant of Syria, where it replaces the common species, and M. Crolla says it is never found there with a different plumage. It is found also throughout the whole of Greece, the Crimea, and the Caucasus.

M. Temminck has examined specimens from each of these countries, and found no difference except in the size; those from Greece were twelve inches; that from the Caucasus thirteen.

M. Degland, in his "Ornith. Europ.," differs from Temminck on this point. He says that the specimens from Syria and Algeria differ sensibly from the Caucasian species. They are not only smaller, but have the tuft less; the cheeks, the throat, and a part of the front of the neck white, and not reddish ash; the blue of the wings is less extended, and of a brighter tint; the tail has on all its quills transverse bars of bluish ash, (the most lateral of each side excepted,) while there are only a few bands on the median in the Caucasian species. The beak in the latter is thicker, and approaches nearer to that of the Common Jay.

Degland doubted whether this bird was ever found in Greece, as stated by Temminck, as M. Von der Mühle never met with it there during a six-year's residence.

For these reasons Degland considered it most probable that the Black-headed Jay of Asia Minor and Algeria does not occur in Europe, and that the Caucasian race is the only one that does. He therefore prefers the

name of the Russian naturalists, *Iliceti*, considering that Gené's species is different, and not found in Europe.

Whether this is correct or not there seems to be no doubt but that the habits of the Common Jay and the species we are now considering are precisely the same.

For the same reason then that I introduced some interesting details by Professor Moquin-Tandon, on the nidification of the Common Magpie, I quote here some equally valuable notes from his paper on the Nests and Eggs of the Common Jay, *(Garrulus glandarius.)* They are extracted from the "Revue de Zoologie" for March, 1858:—

"It is well known that the Jay builds in oaks, chesnuts, birches, and beeches, at a height of from five to eight metres, (sixteen to twenty-four feet;) it rarely chooses bushes. Its nest is in the form of a shallow cup, more or less extended. I have seen a large number of them, and they are all very much alike. Four of them averaged about three inches high, six inches in diameter, and two in depth.

In the materials which compose their nests are found on the outside small branches and twigs of oak, chesnut, and beech, and inside slender roots of heath and stalks of grasses.

The eggs of the Jay are in number from four to seven, and of a dark grey, with a more or less bluish, greenish, or reddish shade, with small olive-coloured spots in great number very close together.

These eggs vary very much in colour. In 1838 one hundred and three were brought to me from the Black mountain near Revel, some fresh, the others hatched. I noticed in this number fifty-six of a greenish grey, finely and indistinctly spotted with olive green, (this is the type;) twenty-one less grey, rather bluish, with

spots of the same colour; fifteen grey, slightly reddish, and spots of the same colour; four dark olive grey, with spots very indistinct; six greenish grey, nearly without spots; and one a fourth smaller, colour normal.

The Black-headed Jay does not require an extended description. The points which distinguish it from the Common Jay are clearly laid down in the specific characters used in Gené's remarks, which I have quoted in the notice. The irides are white, streaked with brown; feet horn-colour.

OMNIVORÆ.

Family CORVIDÆ.)

Genus GARRULUS. *(Brisson.)*

SIBERIAN JAY.

Garrulus infaustus.

Garrulus infaustus,	VIEILLOT; Dict. vol. 12, p. 478.
" "	TEMMINCK; Man. 1835.
Lanius infaustus,	LINN.; S. N. 1766.
Corvus "	LINN.; Faun. Suec.
" "	LATHAM. TEMMINCK. (1820.)
Dysornithia infausta,	SWAINSON; App. Faun. Bor. Am., p. 495.
Corvus mimus,	PALLAS; Faun. Russ.
" *sibiricus,*	GMELIN; Syst., p. 373.
Geai boreal—Geai imitateur,	OF THE FRENCH.
Gemeiner meisenheher,	OF THE GERMANS.

Specific Characters.—Top of the head and cheeks brownish; beak grey; tail reddish ash, slightly rounded. Length twelve to thirteen inches.

THIS bird, as Temminck remarks, and its congener, *G. Canadensis*, form the natural passage from the Crows to the Nutcrackers, the only European species of which is in the British list. They have the same straight beak as the latter bird, but it is shorter. Swainson, in the

Appendix to the Aves of the Fauna Boreali Americana, has formed a distinct genus, under the name of *Dysornithia*, of which he gives the American Jays—Canadian and Short-billed—with this bird as the type. Thus carrying into practice the remarks acutely made by Temminck that these Jays form good species for multipliers of genera, and that among the foreign *Omnivoræ* they will find a vast field for the development of their new views. I hope this observation will not be construed into any disparagement of so great and original a naturalist as Swainson. The accuracy of his descriptions, the clearness and elegance of his language, the able criticism by which he unravelled the obscurity which the verbiage and synonymic lumber of many bygone writers had thrown around different species, will long render his name distinguished among the philosophic naturalists of the age which he adorned. But with all this it must be admitted that in the separation of closely allied species into different genera, often to favour his well-known views, he has done much to retard the attainment of a natural system of classification. The Jays were originally classed by Linnæus among the Crows. Temminck and others followed the same plan. Brisson, however, originally had classed them separately, under the generic name of *Garrulus*, which Vieillot, in 1817, restored, and he has been followed by almost all other authors of eminence, including Temminck, in the third edition of his Manual.

There have been few if any naturalists equal to Brisson for accuracy of observation, and the writers on ornithology of the present age paid a just tribute to his genius, by adopting his classification of this and many other well-defined groups. No classical learning

or minute analysis can ever make a Jay anything else than a Jay, and in this as in many other branches of natural history, we are apt to lose sight of real natural affinity in a refined hair-splitting philosophy, which equally retards the study and the knowledge of nature.

Though Asia is given as a locality for the Siberian Jay, it is almost exclusively confined to Northern Europe, Temminck says entirely. It is found in Norway, Sweden, Lapland, Russia, and Siberia, where it is not uncommon. Temminck says that in Norway it bears the name of the Bird of Misfortune. It generally remains, according to M. Bore, squatted on the fork of the branches near the trunk of the tree, from which it sends forth a very piercing sonorous cry. It is a bold bird, and will steal flesh wherever it can. It also feeds on caterpillars and insects, mice and small birds.

It nests among the firs and pines, three or four yards from the ground, and makes its nest of moss and fibres, hairs and feathers. It lays five or six eggs, smaller than those of the common magpie, of a bluish grey, with the spots darker.—(Temminck.)

Mr. Wolley found the eggs in his visits to Lapland in 1857 and 1858, and there were five in each of his catalogues for these years. He says, "Common as this bird is, and obtrusive as its habits for three-parts of the year are, its eggs are perhaps the most difficult to procure of any. Before winter has shown a sign of departing, it begins to prepare its nest, and in doing so exercises all the cunning of its tribe to keep concealed the selected spot. Its eggs are consequently still unknown to most collectors, while in some cabinets they are represented by well-known varieties of those of the magpie, to which indeed they bear but slight resemblance. It requires long familiarity with the habits

of this bird to know when and how to watch it to its nest, whose proximity it is so careful not to betray by any observable marks of anxiety."

The adult male and female have the head tufted, and blackish brown; the feathers which cover the nostrils, and those at the base of the beak, white. Plumage above cinereous. Lesser wing coverts and the under part of the wings, rump, abdomen, and all the lateral quills of the tail a beautiful russet; the two middle quills of the tail of an ashy grey. Beak black; feet brown.

The young has the head of a less dark brown, with the feathers of the tuft shorter; below the ash-colour is browner.

Figured by Gould, (Siberian Jay,) "Birds of Europe;" Buffon, "Pl. Enlum.," 608, (Geai de la Siberia;) and Schinz, "European Fauna."

The figure of the egg of this bird is from a specimen kindly sent by Mr. Wolley.

OMNIVORÆ.

Family CORVIDÆ.

Genus PYRRHOCORAX. *(Cuvier.)*

Generic Characters.—Beak middle sized, compressed, rather slender, slightly curved above, and very slightly hollowed out at the point; nostrils basal, lateral, ovoid, and concealed by stiff feathers. Feet strong and thick like those of the crows; tarsi longer than the middle toe; toes four, almost entirely separated; claws strong and hooked. Wings long and pointed, the fourth and fifth quills longest. Tail rounded.

ALPINE CHOUGH.

Pyrrhocorax pyrrhocorax.

Pyrrhocorax pyrrhocorax,	TEMMINCK; Man. 1820.
" "	SCHINZ. SCHLEGEL.
" *alpinus,*	CUVIER; Reg. An. (1829.)
" "	VIEILLOT; Dict. et Faun. France, p. 125. (1817.)
" "	LESSON; Orn. (1831.)
" "	CH. BONAPARTE.
" "	KEYSERLING ET BLASIUS.
Corvus pyrrhocorax,	LINNÆUS; S. N. (1766.)
" "	GMELIN; Syst. (1788.)
" "	LATHAM; Ind. (1790.)
" "	MEYER ET WOLFF. (1810.)
" "	TEMMINCK; Man. (1815.)
Corvo cokallino,	STOR.
Choucas des Alps,	OF THE FRENCH.
Gemeine alpenkräke,	OF THE GERMANS.

Specific Characters.—Beak shorter than the head, rather slender, and yellow. First quill feather short, the second longer than the seventh, the fourth the longest of all. Plumage black. Feet red or black. Length sixteen inches.

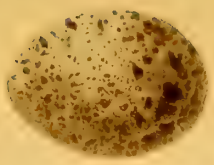
The Alpine Chough is not only separated specifically from our well-known Cornish Chough, but has been placed by Cuvier in a separate genus, sixty-one genera from it; some real or fancied difference in the beak being the reason assigned for this remarkable distinction of two birds, so closely allied, that it is almost difficult to distinguish one from the other. The Alpine bird has a yellow instead of a red beak, and is rather less than the Cornish species; in other respects, in form and colour, feet, nostrils, wings, and tail, they are absolutely the same. In habit they are also identical, and M. Temminck mentions that in the high Alps he has often seen the two species united together in large flocks.

The Alpine Chough is common in the Alps, Pyrenees, and in Greece. It inhabits the highest valleys of the Alps, in the neighbourhood of regions covered with perpetual snow, from which, Temminck observes they never come down into the plains till all nourishment fails them.

They nest in the clefts of the most precipitous rocks, and of ruins and towers in the villages of the highest mountains. They lay four or five eggs—whitish with spots of a dirty yellow.

They feed upon grain, insects, carrion, small crustaceans, berries, worms, in fact everything they can get.

Their moult is simple and ordinary; the sexes are scarcely to be distinguished externally, and the young of the year are known by having the beak and feet



blackish, the old birds having those parts covered with yellow or bright red.

From a letter with which I have been favoured by Mr. Tuck, of Wallington, Herts., containing some valuable remarks about the birds which he observed near Pau, in the south-west of France, I extract the following:—"The Alpine Chough is often seen among the mountains, sometimes in large flocks of nearly two hundred, as they were at the end of March in the Vallée d' Ossau. They and the Red-legged Crow seem about equally distributed there."

This bird occurs frequently in Greece. The Count Von der Mühle, in his "Beitraege zur Ornithologie Griechenlands," page 54, says:—"The Alpine Chough is found in all the mountain range of Greece, as well in Lacedemonia as in Rumelia; it is also found in Illyria, where it abounds in the volcanic rocky caverns formed on the level land. These caverns became the dwelling-place of incredible flocks of Alpine Choughs, Pigeons, *(Columba livia,)* and Jackdaws. I generally visited one of these caverns every morning, and when I looked into it there arose such a noise from the mingled voices of its various inhabitants, that I was positively deafened by it. These caverns are filled with copsewood. If a stone were thrown in, the birds would rise by degrees and fly quickly away. One day a friend and I threw down a piece of rock, and no words can describe the astounding cries which rent the air."

Latham gave the following concise description of this bird:—"Size of a Jackdaw. Bill rather more elongated and yellow. Plumage wholly black; legs and claws black or yellow. Inhabits the Alps; has a sharp and disagreeable voice. Lives upon grain, and does much damage to the harvest. Flesh pretty good eating."

OMNIVORÆ.

Family CORVIDÆ.

Genus STURNUS. *(Linnæus.)*

Generic Characters.—Beak nearly as long as the head, straight, wider than high, slightly obtuse, and depressed; base of the upper mandible encroaching upon the forehead; tip much depressed, and not hollowed. Nostrils basal, lateral, and half closed by a membrane. Three toes in front and one behind; exterior toe joined at its base to the middle one. Wings long; first quill feather almost obsolete, second and third longest.

SARDINIAN STARLING.

Sturnus unicolor.

Sturnus unicolor,	MARMORA; Della Acad. di
" "	Tor. (1819.)
" "	TEMMINCK; Man. (1820.)
" "	VIEILLOT; Faun. Fr. (1828.)
" "	BONAPARTE. SCHINZ.
" *vulgaris unicolor,*	SCHLEGEL; Revue.
Storno nero,	SAVI.
Etourneau unicolore,	FRENCH.
Einfarbiger staar,	GERMAN.

Specific Characters.—Plumage black without spots; feathers of inferior parts very long, tapering, and drooping from base of the neck. Length nine inches.—DEGLAND.

The Sardinian Starling was discovered by Marmora, and described by him in the "Memoirs of the Academy of Turin," for August, 1819. Since then it has been found in Algeria, and it is known to pass the winter in company with the Common Starling on the African coast of the Mediterranean, which is contrary to the opinion expressed by Marmora at the time he wrote his memoir.

It is easily distinguished from the Common Starling by the specific characters at the head of this notice. The males have the drooping feathers from the neck longer than the female.

According to Temminck it is found in Sardinia among the rocks, where it builds, and it flies about and rests on the houses like its congener.

Its food and mode of building is exactly the same as the Common Starling.

The male and female are entirely black, without spots, having a reflection of purple, but less so in the female. The base of the beak is blackish, with a yellowish tip. Feet yellowish brown.

The young before the first moult are of a grey brown, always darker than the young of the Common Starling. After the second moult, and during the winter it has small whitish spots on the feathers, which, however, disappear in the spring without a double moult.

I may take this opportunity of observing that Mr. Small, a bird-stuffer and naturalist, of George Street, Edinburgh, has in his possession a male specimen of the Abyssinian Roller, *(Coracias Abyssinica,)* which was killed near Glasgow a year or two ago. Mr.

Small had the bird in the flesh, and preserved the skin himself. He says the female was also obtained a short time after, but forty miles distant from where the male was killed. Mr. Small is a well-known naturalist, and I have not the slightest doubt that the statement is in every point correct; but as I am not aware that this bird, which is distinguished by the two long processes at the end of the outer tail quills, has ever been observed in Europe, and as there is a possibility of the two birds having escaped from confinement, I do not feel justified in introducing it into this work. I notice it here as its place would have been that preceding the bird I have just described.

Order III.—INSECTIVORÆ.

Family LANIDÆ. (Bonaparte.)

Genus Lanius. *(Linnæus.)*

Generic Characters.—Beak medium size, robust, convex, and much compressed; superior mandible strongly curved at the tip, forming a hook; base destitute of a cere, covered with rough hairs directed forwards. Nostrils basal, partly lateral, almost round, closed by an arched membrane, and frequently nearly concealed by the hairs. Tarsi longer than the middle toe; three toes in front and one behind, entirely divided. First primary of the wings of moderate length, the second slightly shorter than the third and fourth, which are the longest.

GREAT GREY SHRIKE.

Lanius meridionalis.

Lanius meridionalis,	Temminck; Man. i., 143.
" "	Bonaparte. Schlegel.
" "	Schinz. Degland.
" "	Keyserling et Blasius.
Pie grieche meridionale,	Of the French.
Südlicher Würger,	Of the Germans.

Specific Characters.—First quill feather shorter than the fifth; tail long and much graduated, with the lateral quill feathers half black and half white; a white mark above the eye, and a roseate tint on the under parts in the adult. Length ten inches.

The Shrikes, which form the first genus of Temminck's third order, *Insectivores*, are a well-marked group, feeding almost, if not entirely, upon insects. They were originally classed by Linnæus in his first edition of the "Systema Naturæ," published in 1735, among the Falcons, but he subsequently formed them into the distinct genus *Lanius*, still keeping them among the *Accipitres*, or Birds of Prey. They were, however, separated from this last class by Illiger and Cuvier. Temminck, in the first edition of his "Manual," placed them directly after his order *Rapaces;* but as he justly observes their manners and habits are so similar to those of the great group comprised in his *Insectivores*, that in his second edition in 1820 he placed them at the head of that order. Schlegel places the Swallows between the *Raptores* and the *Lanidæ*. Swainson classes them directly after the *Raptores*, while Bonaparte separates them from that order by no less than twelve families, including the *Hirundinidæ*, *Sylviadæ*, *Paridæ*, *Merulidæ*, etc.

The limits of this book will not allow me to enter at length into the various reasons assigned for these different generic positions. Temminck, however, did not form his arrangement upon one or two peculiar characteristics; he took a masterly view of the various groups of birds, and he assigned to them the position they hold in his classification, according to their natural affinities. Thus the *Sturnidæ* are insect feeders and have a musical note, but in their habits they assimilate with the Crows, and he therefore excluded them from the *Insectivores*, and placed them with the Rollers, the Chatterers, the Orioles, and the Pastors, in the *Omnivores*. But the habits of the Shrikes are altogether those of our singing passerine birds, with

whom they are seen flitting from branch to branch in early spring, and they are therefore introduced into that group, and are placed at the head of the order *Insectivoræ*.

The Great Grey Shrike, *(Lanius meridionalis,)* must not be confounded with the bird of that name in the British lists, *L. excubitor* of Pennant, to which it is a pity that Yarrell did not restrict the name of Grey or Cinereous or Ash-coloured Shrike, given to it by various authors.

Temminck, however, in the second edition of his "Manual," states his opinion that the three European Shrikes known as *L. excubitor*, *L. meridionalis*, and *L. minor*, are only races or permanent varieties produced by climactric agency. I will quote his exact words as the subject is one of great interest. In the third edition he does not say anything contrary to this opinion, but he gives an additional distinction between the two first, namely, the white band above the eyebrows, mentioned in the specific characters above.

"This Shrike and those known under the names *excubitor* and *minor*, seem to form three races or constant varieties, produced by the climate. This one *(meridionalis)* belongs to the countries of the south, and never visits the centre or the north of Europe. Its habits are nearly the same as those of the Grey Shrike, *(excubitor,)* from which, however, it constantly differs by the much darker ash-colour of the upper parts of its body, and by the wine lees colour distributed in different shades upon all the under parts of the body. This race, which might also be called a species, seems always to have the same marks by which it is easily distinguished from *L. excubitor*, without offering by its plumage any indication of a union of the species. I

do not think the races do mix, though this may take place in districts where they are both found, or where one is more numerous than the other."

The Great Grey Shrike is an inhabitant of Italy, Dalmatia, the South of France, and the Spanish coast of the Mediterranean, and it is found in Greece. It has been killed by M. Savi in Tuscany, and by Prince C. Bonaparte near Rome. It occurs accidentally in the North of Africa.

Count Von der Mühle says:—"*L. meridionalis* is found, though not commonly, among the bushes in growing meadows. It breeds in Greece. It is very like *excubitor*, when young, but it has the four centre tail feathers a beautiful black. It is rarely seen here after the end of August."

According to Degland it nests in trees. It lays five or six eggs, of a dirty white or reddish white, with small spots, numerous and close together, of a dull red, brown, and grey. Length,—long diameter one inch, small diameter nine lines.

In the "Fauna Boreali Americana" there is an excellent picture of the North American Shrike, (*Lanius excubitoroides,*) which Swainson occupies three or four pages in endeavouring to prove is a new species, and different both from the *L. Carolinensis* of Wilson, and the *L. Ludovicianus* of Linnæus. He also says that Vieillot's *L. ardosiaceus* is an imaginary species, made up of *L. borealis,* the Great American Grey Shrike, and Wilson's *Carolinensis.* If Swainson's description is, however, true, whatever may be the specific mark of *L. meridionalis,* there can be no doubt about Wilson's *Carolinensis,* and the *L. meridionalis* of Temminck being the same bird. Swainson insists upon the importance of the four middle tail feathers of *L. Carolinensis*

being a strong distinctive character between that bird and his *L. excubitoroides*. If it is the only one, and he only adduces the additional characteristic of "a darker slate," then it is quite certain that my supposition is right. The description of M. Temminck of his *L. meridionalis* is (with the exception of the four middle tail feathers being quite black instead of two) *precisely corresponding to the figure given by Swainson in the "Fauna," as above quoted.* The white mark above the eye is not mentioned in the second edition of the "Manual," but it is in the third. Temminck gives the length of *L. meridionalis* nine inches, Degland ten. Swainson is most accurate in his dimensions, and gives the length of his bird nine inches and a half.

Wilson also says of *L. Carolinensis* that it inhabits the warmer parts only of the United States, as the rice plantations of Georgia and Carolina.

In the observations above it will be seen that Temminck says *L. meridionalis* only inhabits the countries of the South of Europe. The following is his description of this bird:—

Adult male. The head, nape, mantle, and back of a very dark ash-colour; a large black band below the eyes, covering the orifice of the ears; throat of a vinous white. All the lower parts of a rather vinous ash-colour, of which the tints are shaded upon the flanks and thighs into a more pure and darker ash-colour. Origin of primaries and tip of secondaries of a pure white; four middle quills of the tail quite black, the others as in *excubitor*.

Adult female. Upper part of the body of a dark ash-colour, but always less pure than that of the male; the under parts more shaded with ash-colour, and variegated with dark crescented marks, which terminate

all the feathers. The dark band under the eyes not so decidedly black.

The figure of the egg is from a drawing with which I have been favoured by M. Moquin-Tandon, from an egg found in the South of France.

Figured by Temminck and Laug; Gould, B. of E., (Great Grey Shrike;) Roux, "Ornith. Prov.;") Bouteil, Ornith. du Dauph., p. 18, f. 2.

LESSER GREY SHRIKE.

INSECTIVORÆ.

Family LANIDÆ. (Bonaparte.)

Genus LANIUS. *(Linnæus.)*

LESSER GREY SHRIKE.

Lanius minor.

Lanius minor,	GMELIN.
" "	LINNÆUS, 1788. TEMMINCK, 1820.
" "	VIEILLOT. LESSON. CUVIER.
" "	KEYSERLING ET BLASIUS.
" "	SCHLEGEL. SCHINZ.
" *Italicus,*	LATHAM, Ind. 1790.
Averla cenerina,	SAVI.
Pie-Grieche grise a front noir,	OF THE FRENCH.
Grauer Würger,	OF THE GERMANS.

Specific Characters.—Wings with supplementary quill feather short and narrow, and a white speculum on the primaries; first quill feather much longer than the fourth; tail very long, nearly square in the middle; two lateral quills entirely white; adult birds with rose-coloured chests.

Length nine inches.—DEGLAND. Length eight inches.—TEMMINCK.

THIS is another of the three Shrikes which Temminck considers as a permanent variety or race of the type *L. excubitor,* and which I noticed in the previous de-

scription. It lives in the same localities, and has the same manners and habits as that bird.

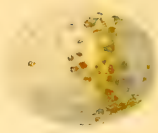
Lanius minor inhabits the Archipelago, Turkey, Italy, Spain, Greece, and many parts of the north and south of France. It is found also in Germany rarely, and still more so in Holland. It builds its nest of odoriferous herbs, according to Degland, and M. Gerbe says that in Provence it always constructs the outside of stalks, in greater or less quantity, of the wild *immortelle*, (Amaranthus.) It lays five or six eggs, obtuse, generally greenish, sometimes greyish or slightly bluish, with spots of a violet grey and olive, particularly at the larger end.

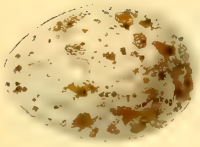
Of this bird in Greece, Count Mühle observes that it is as abundant as *L. meridionalis*, yet "I never saw it with so red an abdomen as the figure in Gould's splendid work."

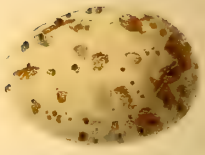
The following is Temminck's description:—Adult male. Forehead and auditory region, and parts around the eyes, black; occiput, nape, and back, ash-colour; throat white; chest and flanks of a red rose; wings black, a white speculum on the quill feathers; first tail quill white, the second black along the shaft, on the third a great black spot tipped with white; on the fourth a larger black spot, at the end pure white; four middle quills entirely black.

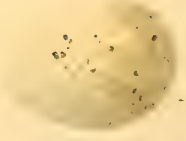
The female has the rose-colour duller; black bands on the forehead and ears smaller; the band and the black of the wings more inclined to a brown tint.

Young of the year in the two sexes, after the autumn moult, have no black band on the forehead; this part is in winter of a dull ash-colour; after the spring moult the black band appears, and the rose on the chest is brighter. Young birds of the year are also distinguished









1. MASKED SHRIKE.

2 & 3. LESSER GREY SHRIKE. 4. HOODED SHRIKE.

by the dirty ash-colour of the upper parts, with which all the feathers are fringed, and by the dull white of the under parts.

The egg of this bird and a beautiful variety are figured from drawings kindly sent me by M. Moquin-Tandon, from eggs found in Spain.

Figured by Gould, (Lesser Grey Shrike;) Naumann, pl. 50; Buffon, pl. enl. 32, (Pie-Grieche d' Italie;) Roux Orn. Prov., pl. 51, ♂ adult, f. 2, young; Bouteil Orn. du Dauph, pl. 18, f. 3.

INSECTIVORÆ.

Family LANIDÆ.

Genus LANIUS. *(Linnæus.)*

MASKED SHRIKE.

Lanius personatus,	TEMMINCK. SCHLEGEL. 1844.
" *nubicus*,	LICHSTENSTEIN; Cat: Mus: Berlin, 1823.
" *leucomotopon*,	COUNT MUHLE, 1844.
Leucometopon Nubicum,	BONAPARTE.
" "	CAPT. LOCHE; Cat: des Mam., et des Ois: Observé en Algerie, 1858. Supplementary list, p. 154.
Pie-Grieche masquée,	OF THE FRENCH.

Specific Characters.—Wings with a rather lengthened bastard quill feather, marked with a white spot. First quill feather longer than the fifth; tail long and sloped, with the most lateral quill feather white, shaft black; the following one also white; inner feather with the shaft and edges black.

Length nineteen centimetres (seven inches and a half.)—DEGLAND. Length six inches and one-sixth, (Paris.)—MUHLE.

THIS bird appears to have been first described by Lichstenstein, in his Catalogue of Duplicate Birds in the Museum of Berlin, and published in 1823, under the name of *Lanius nubicus*. It was subsequently dis-

covered in Greece, and described as a new species by Count Von der Mühle, in 1844, under the name of *Lanius leucomotopon.*

It was first figured by Temminck as *L. personatus,* which name was adopted by Schlegel, in his "Revue," in 1844, and which I retain in deference to the naturalist whose system of classification I have followed. The genius of the late Prince of Canino, so fertile in adding to our list of names, called it *Leucometopon nubicum,* erecting a new genus upon the specific name of Count Mühle. Ornithologists must not therefore be confounded in finding the *Lanius personatus* of 1844, and the *Leucometopon nubicum* of Loche's list of African birds in 1858, the same.

And yet it is, and was, and ever will be, a *Butcher Bird,* having all the characters and habits of the well-marked genus *Lanius.*

The Masked Shrike is an inhabitant of Greece, Nubia, Algeria, Arabia, Abyssinia, and Egypt. We are indebted for all we know about its habits to Lindermayer and Mühle, the Grecian ornithologists.

According to the former it makes its nest in bushes, in uncultivated ground, or on olive trees; it constructs a circular nest, composed of young leaves outside, and of blades of grass and petals of flowers inside. It lays seven or eight eggs, of a pale greenish grey, washed with a yellowish tint and irregular spots of green black, mixed with others of a green brown at the largest end.

It arrives in Greece towards the end of April or beginning of May, and leaves with its young towards the end of August. It inhabits the extensive valleys of Greece, and sings very prettily.

Count Mühle thus describes the "Masked Shrike:"—"A beautiful Butcher Bird, of which I have collected

both young and old in Greece. Length six inches and one-sixth. It has a broad white stripe, which extends across the forehead and over each eye; the scapulars clear white; the whole upper part of the body, head, back, and tail blue black; the wings brown black, with a clear white speck upon the tenth primary; the secondaries and wing coverts whitish at the edges; breast, red yellow; feathers on the abdomen bright rust-coloured. Tail feathers white, with black shafts; first feather an inch shorter; second the same, having its inner side with a narrow border of black; the third black, with a white wedge-shaped spot on the inner side, and a larger one on the outside.

The young have the whole upper part of the body greyish, with thick black wave-like lines; all the feathers yellowish red at the edges; the scapularies whitish, with black waves; the spots on the wings like those on the old birds, but smaller, with white edges to the primaries, broader on the hinder ones. Tail brown black, otherwise the same as in old birds; throat, white; whole under part of body whitish, with black waves; under wing coverts the same. Beak and feet black.

Habitat on the thorn bushes along the banks of the Phalerus, near Athens."

Figured by Temminck, pl. 256, f. 2.

HOODED SHRIKE.

INSECTIVORÆ.

Family LANIDÆ.

Genus LANIUS.

HOODED SHRIKE.

Lanius Tchagra.

Lanius Tchagra,	LE VAILLANT; Ois d'Afr. 2, pl. 70.
" "	SCHLEGEL. DEGLAND.
" *cucullatus,*	TEMMINCK, 1840.
Telophonus erythropterus,	SWAINSON.
Pie-Grieche a Capuchin,	OF THE FRENCH.
Tschagra-Würger,	OF THE GERMANS.

Specific Characters.—Above testaceous brown, beneath whitish; wing coverts and quills (externally) rufous; crown and stripe through the eye black; sides of the head with a broad whitish stripe.

Total length nine inches; from the gape one inch; wings three inches and a half; tail from base four inches and a half; tarsus one inch and one-tenth.—SWAINSON.

THIS bird has been introduced into the European Fauna in consequence of its occurrence in Spain, especially. More recently it has been killed in the west of France, according to Degland. Temminck, in the latest additions to his Manual, published in 1840, remarks that he has received it from Andalusia, as well as the south of Spain. But it is rather singular that in

a list of the Birds of Andalusia, published by Dr. (Don Antonio) Machado, in 1854, no mention is made of this bird. The omission, however, loses much of its significance by not being noticed. M. Temminck remarks further that his specimens from Andalusia do not differ from those of Senegal. But Schlegel, writing in 1844, observes that the specimens killed in Spain and at the Cape of Good Hope are the same, while they differ both in size and colour from those brought from Senegal. This is also confirmed by Degland. But the Spanish specimens alluded to in both these instances were those procured from the south of Spain. There seems however to be two races or permanent varieties of this species, one inhabiting Senegal, and the other Abyssinia and the Cape of Good Hope, and found accidentally in Spain and France.

The best account of this bird is given by Le Vaillant, in his "Histoire des Oiseaux d'Afrique," from which I extract the following:—

The feebleness of the wings of this Shrike prevents it from hunting on the wing, and it therefore contents itself with seeking under shrubs and among low plants caterpillars, spiders, and insects, which cannot escape from it by flight, as moths and grasshoppers do. This is another example of the manner in which Nature has adapted the forms of animals to their habits. The Ostrich, Cassowary, and other large birds, designed only to live upon the earth, have wings, but are unprovided with feathers fit to sustain them in the air, while their strong and massive feet fit them for the long journeys they are obliged to take. In the same manner the Mandiots, (Grebes,) which are formed to inhabit the water, have not only rudimentary wings, but their feet are placed so far back, that they cannot walk the slightest distance

Muscicapa collaris

Dresser, Henry E.: "A History of the Birds of Europe", Vol. III, Pl. 158.

male ad.

INSECTIVORÆ.

Family MUSCICAPIDÆ. (Lesson.)

Genus Muscicapa. *(Linnæus.)*

Generic Characters.—Beak of medium size, angular, depressed at base, and compressed towards the tip, which is curved and hollowed out. Nostrils basal, ovoid, lateral, and partly covered by hairs, pointed forwards. Tarsi medium size, as long, or longer than middle toe; middle and external toes united at their base; the claw of the hind toe stronger and more curved than the other. First quill feather very short, second shorter than third or fourth, the third longest. Tail hollowed out at the end, having twelve quill feathers.

WHITE-COLLARED FLYCATCHER.

Muscicapa albicollis.

Muscicapa albicollis,	Temminck, 1820. Cuvier, 1829.
" "	Bonaparte, 1838. Schinz, 1840.
" "	Keyserling and Blasius, 1840.
" "	Schlegel, 1844. Degland, 1844.
" *atricapilla, var. γ.,*	Gmelin; Syst., 1788.
" "	Latham; Ind., 1790.
" "	Meyer and Wolff, 1810.
" "	Vieillot, Dict., 1818.
" *streptophera,*	Vieillot, Faun. Fran., 145.
" *collaris,*	Bechstein. Naumann. Gould.
Le Gobe-Mouche à collier de la Lorraine,	Of the French.
Weisshalsiger Fliegenfanger,	Of the Germans.

Specific Characters.—Wings with the bastard feather a third of the length of the first quill, this either on a level with the fourth or extending beyond it; a small clear white spot upon the wing. Length five inches and three-fifths.—DEGLAND.

THE Flycatchers are merely birds of passage in Europe, and we only recognise four species in its fauna, of which two are in the British lists, and the others will be described and figured in this work. The tropics are rich in species of this family.

The White-collared Flycatcher is found especially in the provinces of the centre of Europe, and is dispersed rather plentifully in many parts of France, less regularly in the north. Degland says that he has found it at Lisle in May, and that it breeds in considerable numbers in Lorraine. Temminck says that it is never found in Holland, and rarely in the middle of Italy. Count Von der Mühle observed it in Greece, in the spring passage in April, but then only for a few days, and in considerable numbers, and in the breeding plumage, from which he thinks it probable that it breeds in Rumelia. It is included in Captain Loche's "Birds of Algeria."

Latham thought that the White-collared Flycatcher was a variety of the Pied, and observes—"These varieties the less surprise us when we are told that the bird varies in plumage in different seasons of the year, the male only possessing the full black during the summer; after that growing so like the female as not to be known from her. Hence such variety of description and sentiment concerning this bird." The specific distinction, however, between the two birds, was clearly pointed out by Temminck in the first edition of his "Manual." The males in breeding plumage are easy to distinguish, but only after the change in the colour

of the plumage which follows the spring moult, and which Temminck at one time considered and described as a second moult.

In *albicollis* the white collar surrounds all the upper part of the neck, while in *atricapilla* the whole of the upper part of the neck at this time is black. During the moult the collar of *albicollis* is marked out by a grey ashy shade. The males of *atricapilla* in the winter plumage have no white spot on the quill feathers. In *albicollis* the two external quill feathers of the tail have a white edge, more or less wide according to age; in *atricapilla* there are *three* lateral quill feathers so marked. According also to Roux, the first quill feather of the wing is not longer and often shorter than the fourth in *atricapilla*, whilst it is always *longer* in *albicollis*. In all other external marks the males in winter plumage, the females of both species, and the young birds, may very easily be mistaken for each other.

But the habits, the call note, and the song of the males, are very different and distinctive, as well as the colour of the eggs. The call of *albicollis* is a sharp disagreeable whistle, while that of *atricapilla* is an agreeable sonorous note.

The White-collared Flycatcher builds its nest in the holes of trees, of moss and hair. It lays five or six eggs of a pale greenish blue, and generally *very slightly deeper in colour or streaked at the larger end.* Large diameter nine lines, small diameter six lines.—Degland.

It frequents wild and vast forests, where it may be found perched upon the summit of the trees, only coming down when its prey, the insects, are driven lower by the rain. It is only seen in the smaller woods in autumn. The plumage differs much in the sexes, and at different seasons.

Male in breeding plumage. The top and sides of the head, back, small wing coverts, upper tail coverts, and tail of a deep black; the lower part of the back variegated with white. The forehead, a collar round the lower part of the neck, a large longitudinal spot, and a small spot below it upon each wing of a pure white; the outermost tail feathers on each side edged with white. Beak, feet, and iris black.

Adult male in autumn and winter. Greyish brown above, white below; it only then differs from the female of the same age by a kind of grey and often interrupted collar round the neck, and by the feathers being darker.

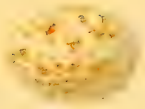
Female. In breeding plumage very little different from the Pied Flycatcher. It is of an ashy grey above, and pure white below; the forehead whitish; a white spot upon the wing, and a kind of collar of paler feathers at the base of the neck.

Young birds of the year are like the females in autumn, but they have the inferior parts of the body of a duller white, the chest and sides spotted with ash-colour, and they have not, like them, a whitish forehead. At the approach of spring the plumage of the young male blackens wherever it is ash-coloured in the female. One or both lateral tail quills are black with white edges, but this disappears entirely in the males upwards of two years old. In winter there is no difference between males and females.

The figure of the egg is from a drawing kindly sent me by M. Moquin-Tandon.

The figure of the bird is a male in summer plumage.

Bird figured by Roux, "Ornith. Prov.," pl. 151, male in summer plumage; Gould, "B. of E.," pl. 63, f. 2; Bonteil, "Ornith. du Dauph.," pl. 19, f. 2.



1. WHITE-COLLARED FLYCATCHER.

2. RED-BREASTED FLYCATCHER. 3. RED-BREASTED THRUSH.

RED-BREASTED FLYCATCHER.

without falling. We see in this how an All-wise Providence, while in the organization of beings, He bestows upon all, the organs necessary to their habits of life, deprives them in the same manner of whatever might impede the due performance of their several functions. A great and sublime lesson to those who would rule over our fellow-creatures. We must not only make laws to control the wicked, but deprive them of the means of injuring themselves and others.

The Tchagra is about the size of our European Grey Shrike; its tail, very slightly sloped, is simply rounded at the end; the upper part of the head is of a brownish black, slightly shaded with olive; the back of the neck and scapulars and upper part of the body are of a tan-brown colour; throat whitish. A white band springs from the corner of the eye, and is prolonged from thence with a black line, which is parallel. The neck above and the body below is ash-coloured; the great covers of the wings and the upper edges of the quill feathers are of a ferruginous red, the rest brown, with a greenish shade above; below entirely ash-coloured. The two middle feathers of the tail are of a brownish grey, imperceptibly shaded with a deeper colour; the others are blackish, all tipped with white. Beak horny black, as well as the feet; iris brown.

This bird frequents the most covered and thickest places; it would be very difficult to discover were it not continually betrayed by its song. The male has a note which is heard far off, and which is very well expressed by 'tcha-tcha, tcha-gra,' from which Le Vaillant derived its name.

The female is rather smaller than the male, and has not the upper part of its head black; in every other respect they are exactly alike, except a rather darker

shade, which may be discovered on the mantle of the male and in the red of its quill feathers.

The nest of these Shrikes is found in the bushes; they lay five eggs, spotted with brown.

When young the Tchagra has all the upper part of the body of a much lighter ashy brown than is represented in the figure given by Le Vaillant, of the male and female, and the white is of a reddish tint. It is only at a certain age that the upper part of the head of the male becomes black.

This species was found by Le Vaillant in the environs of the Gamtoos River, and from thence as far as Caffraria, but he did not meet with it in his travels among the Macaaquois.

The above interesting description is taken from Le Vaillant. I was therefore much surprised in turning over Temminck and Degland to find them add a note, "Mæurs habitudes, nourriture, et propagation, niconnus."

Figured by Buffon under the name of Pie-Grieche rousse á tête Noire du Senegal, pl. enl. 479, f. 1, and by Le Vaillant, Op. Cit., pl. 70.

INSECTIVORÆ.

Family MUSCICAPIDÆ. (Lesson.)

Genus MUSCICAPA. *(Linnæus.)*

RED-BREASTED FLYCATCHER.

Muscicapa parva.

Muscicapa parva,	MEYER AND WOLFF, 1810.
" "	TEMMINCK, 1820.
" "	KEYSERLING AND BLASIUS, 1840.
" "	SCHINZ. SCHLEGEL.
Erythrosterna parva,	BONAPARTE, 1838.
Gobe-Mouche rougeatre,	OF THE FRENCH.
Rothkehliger Fliegenfanger,	OF THE GERMANS.

Specific Characters.—Wings with the bastard feather a third of the length of the first primary; this shorter than the fourth, equal to the eighth: no white speculum on the primaries. Two-thirds of tail quill feathers white, except the four middle ones, which are brown entirely. Length five inches.

THIS pretty and interesting species inhabits the vast forests of Hungary, and the neighbourhood of Vienna, in the summer, but only during the short time necessary to rear its young. It is an annual migratory bird in the Crimea, and accidental in France, Switzerland, and Italy. M. Nordmann says that the young birds

may be seen in flocks in the botanic gardens of Odessa, from the last days of July, and remain till the end of October, and that those birds in full plumage which pass in the spring, only stop a very short time in these gardens.

Schinz writes that this Flycatcher was found in Switzerland. The Marquis of Durazzo notices the capture of one in the neighbourhood of Gênes, in 1835. M. Crespon mentions another taken in the 'Jardin des Plantes,' in Abignon; and M. Gerbe says it has been found at Montpellier, by his friend M. Gervais. Temminck remarks that this species "is an annual migratory bird in Germany, but very difficult to procure. I have not heard that this species has been seen elsewhere—perhaps it only passes through France." It occurs in India, as there are specimens from the Deccan in the museums of Paris and the low countries.

This little interesting bird has, according to Temminck, all the habits of the Redbreast. Nordmann remarks that the vivacity of its movements, as well as the white of its tail, reminds one of the smallest species of Stonechat. It constantly utters a feeble chirp, lowers its tail slowly and repeatedly, and spreads it out or raises it suddenly above its wings. Schlegel remarks in his 'Revue,'—"This bird appears to be still little known in France and England, Mr. Swainson having introduced it into the Naturalists' Library, in 1838, as a species quite unknown, and one sufficiently remarkable to serve as the type of a new genus."

The Red-breasted Flycatcher, like the rest of its family, lives upon flies and other insects. It builds its nest in the united boughs of two neighbouring trees, or in the fork of the branches. The moult is simple, but the colours of the plumage, especially of the in-

ferior parts, change periodically from the same cause as in the preceding species.

The adult male has the upper part of the head, neck, body, and upper tail feathers of a russet or reddish ash-colour; throat, front of the neck and chest of a bright yellow red; abdomen and under tail feathers silvery white; the sides of the bird streaked with a reddish light ash-colour; sides of the neck and chest of a beautiful ash-colour; wing coverts like the back; primaries of a brownish ash-colour; the secondaries edged outside, and tipped with a greyish tint; the four middle tail feathers and the extremity of lateral feathers blackish; the last of a pure white in the rest of their extent; beak and feet brown.

Adult female. According to M. Temminck, it should resemble the male, but Degland says it has the red of the neck and of the chest less bright, and the other colours lighter.

Young birds. Upper parts ash-colour, inclining to russet; inferior parts of a whitish ash-colour, shaded with very light red on the neck and chest, and of a whiter tint on the middle of the abdomen; under tail feathers very white; cheeks, sides of the neck, and chest, especially the sides, tinged with a light red; tail nearly like that of the adult bird. Temminck adds that there is a slight bluish tint above the ears, and that the hairs at the base of the beak are very long.

The figure of this bird is in winter plumage.

Figured by Gould, "B. of E.," pl. 64.

INSECTIVORÆ.

Family TURDIDÆ. (Bonaparte.)

Genus TURDUS. *(Linnæus.)*

Generic Characters.—Beak medium size, compressed, and more or less bent at the tip; the upper mandible hollowed out towards the end; isolated hairs at the gape. Nostrils basal, lateral, ovoid, and partly covered by a naked membrane. Feet with the tarsi longer than the middle toe; the exterior toe united at its base to the middle one. The first primary almost wanting, or short; in some species the third is the longest, in others the fourth.

RED-BREASTED THRUSH.

Turdus migratorius.

Turdus migratorius,	LINNÆUS. GMELIN. LATHAM.
" "	VIEILLOT. TEMMINCK.
" "	BONAPARTE. SCHLEGEL.
" *Canadensis,*	BRISSON.
The Robin,	WILSON.
Migratory Thrush,—	
American Fieldfare,	OF AUTHORS.
Merle Erratique and	
Litorne du Canada.	OF THE FRENCH.
Wanderdrossel.	OF THE GERMANS.

Specific Characters.—Wings with the bastard feathers short; first primary longer than the third, the second longest of all.

Plumage olive brown, underneath rufous; head of the adult blackish, more or less spotted with brown below, and of an ashy brown tint above in the young.

Measurement.—Length nine inches and four lines; beak twelve lines; tail three inches and six lines; feet fifteen lines; toe with claw twelve lines and a half; extent of wings fourteen inches and eight lines.

This is a North American species, where it ranges as far as Hudson's Bay. It is only an accidental visitor to Europe. According to Temminck it has been killed frequently in Germany; on the testimony of Brehm it is recorded as having been killed near Vienna; and M. de Selys Longchamps thinks that the specimen indicated by Schinz of *Turdus rufus*, as having been killed in England is referable to this species. Whether this latter remark be true or not I cannot say, but as we know nothing of its habits in Europe, I have much pleasure in introducing the following graphic and interesting account of it from "Fauna Boreali Americana" by Swainson.

"The Red-breasted Thrush is very common in America, where it is called the Robin. It affects the neighbourhood of towns, and is observed to feed much on the fruit of *Nyosa sylvatica*, and on poke-berries, *Phylotacea decandria*.

It begins to sing in March, and pairs early in April. Its nests were observed as high as the sixty-seventh parallel of latitude, and as low as the fifty-fourth. The young are hatched about the end of May in the latter districts, but not until the 11th. of June further north. The snow even then partially covers the ground, but there are in the high latitudes abundance of berries of *Vaccinium uliginosum* and *V. vitis-idæa*, *Arbutus alpina*, *Empetrum nigrum*, and some other plants, which having

been frozen up during the winter, are exposed the first melting of the snow, full of juice and in high flavour; shortly afterwards, when the young require them, the parents get plenty of fruit.

It builds on the branch of a spruce fir-tree, generally about five or six feet from the ground, taking no particular pains to conceal it, and frequently selecting a tree in the immediate vicinity of a house. Its nest is formed, like the European Thrush, of grass and moss interwoven, and lined with dung. The eggs, five in number, are about fourteen lines long, and have a bluish green colour like those of the Common Thrush.

He is one of the loudest and most assiduous songsters, his notes rather like those of our Thrush, but not so loud. Within the arctic circle the woods are silent in the bright light of noonday, but towards midnight, when the sun travels near the horizon, and the shades of the forest are lengthened, the concert commences, and continues till six or seven in the morning. Even in these remote regions the mistake of those naturalists who have asserted that the feathered tribes of America are void of harmony, might be fully disproved. Indeed the transition is so sudden from the perfect repose—the death-like stillness of an arctic winter—to the animated bustle of summer; the trees spread their foliage with such magical rapidity, and every succeeding morning opens with such agreeable accessions of feathered songsters to swell the chorus, their plumage as gay and unimpaired as when they enlivened the deep green forests of tropical climates, that the return of a northern spring excites in the mind a deep feeling of the beauties of the season, a sense of the bounty and Providence of the Supreme Being, which is cheaply purchased by the tedium of nine months winter.

The most verdant lawns and cultivated glades of Europe—the most beautiful productions of art, fail in producing that exhilaration and joyous buoyancy of mind, which we have experienced in treading the wilds of Arctic America, when that snowy covering has been just replaced by an infant but vigorous vegetation. It is impossible for the traveller to refrain at such moments from joining his aspiration to the song, which every creature around is pouring forth to the Great Creator."

The Red-breasted Thrush migrates in greater or less flocks at the end of summer. It is interesting to reflect upon the marvellous power of that instinct which impels a bird like this into the cold regions of the far north, where the food necessary for the support of its young is still under the frozen snow.

The male in summer has the superior parts and sides of the head covered with black feathers, having the margin fuscous inclining to olive; on each side of the head, between the beak and the eye, is a small white spot. The upper part of the neck, body, and upper tail coverts of a blackish brown; front of the neck white, longitudinally marked with blackish streaks; chest and abdomen of a very light russet; lower belly of a pure white; under tail coverts brown, spotted with white; free edge of the eyelids white. Wings like the mantle, with the lesser coverts bordered with ash-colour; primaries and tail quills brown, also edged with ash-colour, the outer end of these last terminating on the inside with a white spot, and the following one by a border of the same colour.

Males in autumn are of a more green tint above, and all the red feathers of the inferior parts end in whitish.

Female in summer plumage is of a more ashy tint

above, and a less bright red below, a part of the abdominal feathers ending in white, those of the rump, wings, and tail visibly worn out.

Young before the first moult. Upper parts blackish brown; of a dull black on the head, with the spots and streaks reddish in the centre of the feathers. The back, throat, and middle of the neck white, slightly washed with russet; chest and abdomen of a bright red, crossed with black spots at the extremity of the feathers; lower belly white. Wing coverts of a lighter brown than the mantle; primaries and tail quills blackish, the latter edged with white.

The egg is from a drawing kindly forwarded to me by M. Moquin-Tandon.

The figure of this bird is in summer plumage.

Figured by Wilson, pl. 2, fig. 2; Gould, pl. 74; Buffon, pl. enl. 556.

INSECTIVORÆ.

Family TURDIDÆ.

Genus TURDUS.

BLACK-THROATED THRUSH.

Turdus atrogularis.

Turdus atrogularis,	TEMMINCK; Man., 1820.
" "	SCHINZ.
" *Bechsteinii,*	NAUMANN; xi. p. 310, pl. 69, f. 1.
" *atrigularis,*	SCHLEGEL; Revue, 1844.
Merula atrogularis,	BONAPARTE.
Merle à gorge Noir,	OF THE FRENCH.
Schwarzkehlige Drossel,	BREHM.

Specific Characters.—Plumage above greyish olive, below a reddish brown. Face, cheeks, and front of the neck in the male black; in the female, front of the neck red, streaked with black, and with a black spot, horse-shoe-shape, marked out with ash-colour on the breast. In the young, front of the neck white, bordered with black or brown spots. Length about twelve inches. —DEGLAND.

THIS bird is an inhabitant of Siberia, whence it occasionally migrates into Russia, Hungary, Silesia, and Austria. Its occurrence, however, is only accidental in Europe, and little or nothing is known of its habits. It ranges south as far as Nepaul.

There seems to have been some confusion created among systematic writers on ornithology about this bird. Thus Brehm denies that it is identical with the *Turdus dubius* of Bechstein, and also differs in opinion with Naumann and Temminck, who have described the *T. auroreus* of Pallas as identical with *T. atrogularis*, an opinion shared in by Schlegel and other ornithologists. Upon this subject Temminck remarks:—

"As I cannot form any opinion from inspection of the identical species, I think it will be serviceable to give the description furnished by M. Brehm of his *T. dubius*. 'The upper part of the body is of a beautiful olive brown, but the rump is lighter; there is a reddish border to the wings, and an indistinct brown band over the eyes; the front of the body to the upper part of the chest is tan-colour, without spots on the middle of the neck, but with blackish brown streaks on the sides; these spots take a triangular form at the upper part of the chest; the rest of the under parts of a dull white. The plumage of the young bird is like *T. atrogularis*, but there is a yellow band above the eyes.'

If M. Brehm did not give so many new species and sub-species some value might be attached to the difference in the form of the spots, and in the absence or presence of a band over the eyelids; but we may also add we cannot be too particular in admitting what are presumed to be new species, especially in Asiatic Thrushes. The greater number known shew such a disparity in the colours, in their distribution and in the form of spots at different epochs of the moult and at different ages, that the young female and old male of the same species may easily be mistaken and separated as quite distinct."

Turdus ruficollis of Pallas, "Zoog.," tome i., p. 452, has been given as a synonyme of *T. atrogularis* by some systematic writers, but Mr. Gould, who has a beautiful figure of the bird in his "Birds of Asia," considers them quite distinct. I quote the following upon the subject from that magnificent work:—

"In the size of the bill, length of the wings and tail, and in the colouring of the crown of the head and beak *T. ruficollis* is exactly like *T. atrogularis;* but they are very different in colour in other parts. Mr. Hodgson, who has had ample opportunities for examining this bird in India, remarks that *T. ruficollis* is nearly allied to *T. atrogularis*, but differs in having the neck, breast, superciliary ridge, fore part of the under surface of the wing and the tail, except at the tip, rufous. The Russian specimens of *T. atrogularis* are also smaller than individuals killed in the Himalayas, and I have never seen a specimen of the latter species with any other than uniform blackish brown tail feathers; if I had I should have believed the birds were of the same species."

T. ruficollis has been said to have occurred in Europe, and there can be little doubt that it is occasionally seen with the other Asiatic Thrushes as an accidental visitor, though I am not aware of any well-authenticated instance of its capture, and adding this doubt to that of its specific distinctness I do not feel justified in introducing it into this work. It was observed in company with *T. Naumanni* by Middendorf, in the south-east of Siberia, in the sixty-first degree of north latitude. It was also observed by Pallas passing in great abundance to winter quarters through the larch forests of the Daoouria.

About the end of April they begin to pair. They

frequent the densest and most remote solitudes of the forest at this time, and "while perched on the tops of the lofty larches the males gave utterance to sweet songs, which recalled the melody of our *T. musicus* to my memory."

The male of the Black-throated Thrush has the face, cheeks, front of the neck, and upper part of the chest of a deep black, which is shaded with ash-colour upon the end of the feathers of the chest; lower part of the chest and middle of abdomen of a whitish colour, shaded on the side with russet, where this colour is relieved by little angular spots of a dark brown. Inferior tail coverts russet, and all tipped with white. Upon the upper parts a shade of olive ash-colour predominates, which is darker on the head. Wing coverts are delicately bordered with yellowish ash-colour; beak blackish brown, but the inferior mandible is yellow at its base. Iris and feet brown. Length ten inches and a half.

The female has the upper parts of an olive grey, with deeper tints on the wings; the throat has those parts which are black in the male of a yellowish red, longitudinally streaked with black; a horse-shoe-shaped spot on the chest black, marked out with grey; under tail coverts whitish, shaded with yellowish hairs.

Young birds have the throat and front of the neck whitish, but surrounded laterally by a succession of longitudinal spots, which unite on the chest in black or brown marks or spots according to age; all the other parts are whitish, except the sides, which are ash-coloured, and have angular brown spots; all the upper parts of the body as well as the cheeks are olive ash-coloured. It is then *T. dubius*.—Temminck, Man., 1820—35.

The following is Gould's description of *T. ruficollis:* —"Head, all of the upper surface, and wings, greyish brown; lores, superciliary stripe, and throat, light chesnut; breast, abdomen, and under tail coverts, white; two central tail feathers brown, lateral tail feathers rufous, becoming brown towards the margin; bill olive yellow, passing into black at the tip; feet flesh-colour."

T. atrogularis is figured by Naumann, "Naturg. Neue Ausg.," v. 2, p. 310, tab. 69, fig. 1, old male; fig. 2, young of year; Bechstein, as *T. dubius;* Temminck, "Atlas," (male;) Schinz, "Europ. Fauna," tab. 1, p. 164; Gould, "B. of E."

INSECTIVORÆ.

Family TURDIDÆ.

Genus TURDUS.

NAUMANN'S THRUSH.

Turdus Naumannii.

Turdus Naumannii,	TEMMINCK; Man., 1820.
" "	BONAPARTE. SCHINZ.
" "	KEYSERLING AND BLASIUS.
" "	SCHLEGEL.
" *fuscatus,*	PALLAS; Zoogr., 1, p. 451.
" "	GOULD; Birds of Asia.
" *eunomus,*	TEMMINCK; Fauna Japonica.
" "	NAUMANN.
Merle Naumann,	OF THE FRENCH.
Naumann's Drossel,	OF THE GERMANS.

Specific Characters.—Plumage ash-coloured red above; in the adult marked below with large red spots fringed with white, and in the young with triangular spots of blackish brown. Length ten inches.

THIS is said to be one of the Asiatic Thrushes discovered and designated by Pallas *Turdus fuscatus.* Temminck described it in his "Manual" of 1820 as *T. Naumannii,* after the distinguished ornithologist of that name. Mr. Gould, in his "Birds of Europe," adopts

NAUMANN'S THRUSH

Temminck's name, and gives the figure of a bird from the Museum of Munich. In his "Birds of Asia" he restores the name of Pallas—*T. fuscatus*. I think this is a mistake, for in the first place the change of a name held for so long a time, and adopted by the best European ornithologists is likely to cause confusion; and secondly, it is by no means clear to my mind that the specific identity has been clearly established. Gould's two figures differ considerably, and I am not aware that Temminck ever admitted that the bird he described as *Naumannii* was identical with the *fuscatus* of Pallas.

T. Naumannii is an inhabitant of Siberia and Japan; it occurs accidentally in Silesia and Austria, more commonly in Hungary, and probably in Southern Russia. It is also found occasionally in Dalmatia and the centre of Italy. It is readily recognised at all ages by the dark brown tint of the feathers covering the ears, and by the clear bright colour of the eyebrows.

Nothing whatever is known of the manners, habits, or nidification of this species.

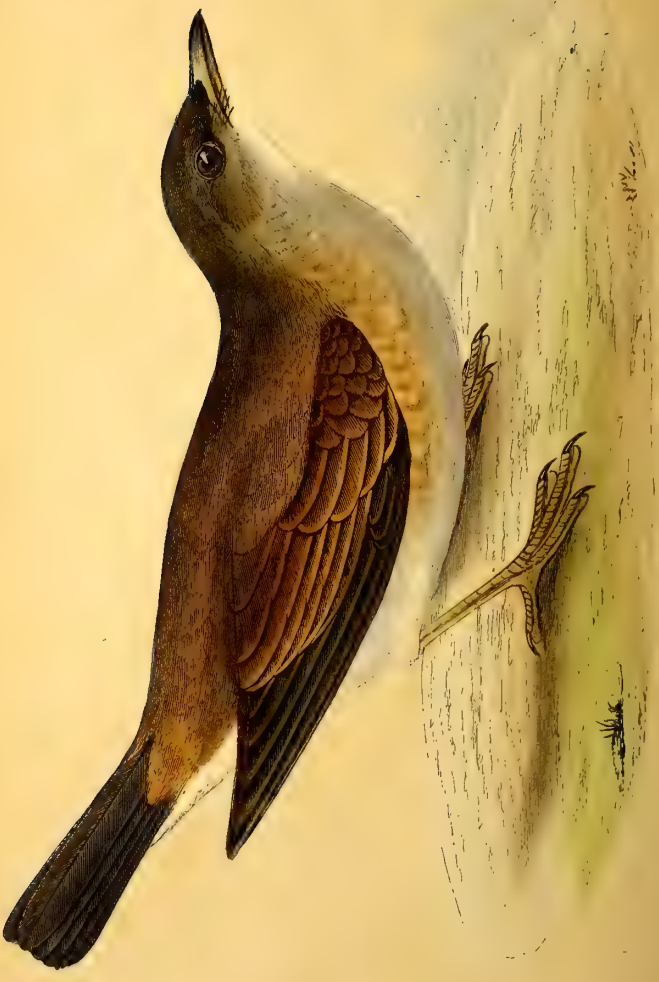
The adult male has the top of the head and feathers covering the ears of a dark brown; all the other upper parts of a red ash-colour, passing by gradations of tints into a deep russet, which is also the colour of the sides of the neck, rump, and lateral tail feathers; the same bright russet edges the scapularies, and forms upon the chest, sides, and abdomen large spots, which occupy the centre of all the feathers, fringed with a deep white edge; middle of the belly and thighs of a pure white. Primaries and middle tail quills, of a dark brown, but all the under part of the tail red; beak and feet brown. Length of the male nine inches.

The female only differs from the male in having lighter and less-marked tints.

Young of the year differ in the large eyebrows and all the under parts of the body having a white ground, on which are a great number of triangular spots of a blackish brown; some of the feathers on the chest and sides are of a bright red in the middle, and all fringed with a deep white edge; middle of belly and abdomen always white.—Temminck.

Degland says the young only differ from the old birds in the under parts, which have a great number of triangular spots of a blackish brown, and some red feathers fringed with white on the chest and sides.

Figured by Pallas, "Zoog.," 1, p. 445, 92, fig. 100; Temminck, "Atlas;" Brehm, "Vog. Deut.," (male;) Naumann, "Naturg Neue Ausg.," tab. 68, (young of different ages;) Schinz, "Europ. Fauna;" Gould, "B. of E."



INSECTIVORÆ.

Family TURDIDÆ. (Bonaparte.)

Genus TURDUS. *(Linnæus.)*

PALE THRUSH.

Turdus pallidus.

Turdus pallidus,	GMELIN; Syst., 1788.
" "	LATHAM; 1790.
" "	TEMMINCK; 1835. BONAPARTE.
" "	KEYSERLING AND BLASIUS.
" "	SCHINZ. DEGLAND.
" *pallens,*	PALLAS; Zoog, i, p. 457.
" "	SCHLEGEL; 1844.
" *iliacus-pallidus,*	NAUMANN; xi, p. 279.
" *Seyffertitzii,*	BREHM; Vog. Dentschl., p. 387.
" *Werneri,*	GENE; Mem. Acad Tor., xxxvii, p. 291.
Merle blafard,	OF THE FRENCH.
Blass drossel,	OF THE GERMANS.

Specific Characters.—Distinguished from all other Thrushes by wanting absolutely the black spots on the crop and sides. Length seven inches and a quarter. Tail three inches. Wings in repose reach to half length of tail. Tarsi thirteen lines.—GENE.

THIS is another of the Eastern Thrushes, occurring accidentally in Europe. Temminck, in his "Manual" in 1835, states that only three specimens have been

captured in Europe. He amends, however, this statement in 1840, by referring to the memoir of Gené in the thirty-seventh volume of the Academy of Turin, who records two other specimens captured in November, 1827 and 1828, in the neighbourhood of Turin. In this paper Gené at the same time points out the singular mistake of Werner, who figured this bird in the "Atlas" as *T. Naumannii*, although Temminck's text distinctly refers to Naumann's figures of the latter; being the first, however, to figure the bird, though under a wrong designation, Professor Bonelli gave it the name of *Werneri*, which will be found among the synonymes.

The bird was described long ago by Pallas, Gmelin, and Latham. Mr. Gould in his figure has delineated faint-coloured spots on the breast, remarking—"We possess other specimens, in which the spots on the breast are wanting, and the white of the throat and abdomen is less pure, but whether the difference is occasioned by sex or age we are unable to determine."

Like the two species which precede this, nothing is known of its habits and propagation, though we may fairly assume they are similar to those of the other species in this well-marked family.

The adult has all the upper parts of a more or less pale olive brown; a black spot covers the lore; the forehead brown; superciliary ridge reddish yellow; the neck and throat blackish ash; the chin white; the crop olive ash; the nape, the back, and wing coverts, dark olive red; quill feathers and tail of a bright ashy black; a white spot on the inner barb of the three lateral quill feathers of the tail; the flanks of an ashy olive; all the rest of the inferior parts of a pure white. Length eight inches three or four lines. The differences

between male and female and different ages of young not known.—Temminck.

Figured by Werner, in the "Atlas to the Manual," under the name of *Turdus Naumannii*, and by Gould, "B. of E."

In the next number I shall figure and describe *T. cyaneus*, but I take this opportunity of noticing several species, some of which have been included by Schlegel and others in the European fauna, and I will quote the remarks of Schlegel himself upon these birds in his "Revue" of 1844, as the best authority for omitting them from this work. The question of determining with exactness the claims of admission into the European lists of many of these stragglers is very difficult, and I have already incurred the rebuke of the reviewer of my work in the "Ibis" on this point. Sins of omission are, however, equally great with those of commission, and I must content myself with the exercise of the best judgment I can give of the evidence on both sides, and perhaps by this means I shall at least avoid the error of being too confident upon a confessedly difficult question in ornithology.

Turdus Barbaricus, Gmelin.—Frequents, according to Risso, the environs of Nice. I cannot give any account of this doubtful species, and therefore pass it in silence.

Turdus rufus, Brisson.—Said by Schinz to have been observed in England, but as he has not indicated the source from whence he has derived this information, I have not adopted this species among those observed in Europe.

Turdus Sibiricus, Pallas.—Introduced into Temminck's "Manual" among the birds of Europe, from one indi-

vidual sent by Professor Pallas during his sojourn in the Crimea, by whom it is said to inhabit only Eastern Siberia. It is therefore necessary to erase this bird from the European catalogue.

Turdus solitarius, Wilson; *T. minor*, Latham.—One specimen killed December 22nd., 1825, in the Duchy of Anhalts-Köthen.

Turdus auroreus, Pallas; *T. Bechsteinii*, Naumann.—In his "Catalogue" Schlegel says this bird has been observed many times in Germany. In his observations, page 70, he says its claim rests upon a specimen reported by Gloger to have been killed in Silesia. It is omitted from the European list by Temminck and Degland, the latter of whom remarks that its appearance within the geographical limits of Europe has not been satisfactorily demonstrated. It is quite probable that it may occasionally appear, as well as other Asiatic species recorded, but I agree with Degland that the evidence on this point is not satisfactory.

My readers will be kind enough to consider the above among the doubtful European species.

INSECTIVORÆ.

Family TURDIDÆ.

Genus PETROCINCLA. *(Vigors.)*

Generic Characters.—Beak elongated and sub-cylindrical, the edges of inferior mandible notched towards the point, to correspond with the curve of the upper mandible. Nostrils basal, lateral, ovoid, and partly closed by a membrane; tarsi of medium length; wings passing the middle of the tail; first quill feather very short, the third the longest, the second a little shorter than the third. Tail feathers equal at the end.

BLUE THRUSH.

Petrocincla cyanea.

Petrocincla cyanea,	GOULD. DEGLAND.
" *cyana,*	KEYSERLING AND BLASIUS.
Turdus cyaneus,	LINNÆUS. GMELIN. LATHAM.
" "	MEYER AND WOLFF. TEMMINCK.
" "	VIEILLOT. SCHINZ. SCHLEGEL.
" *solitarius, (female,)* *and Manillensis, (young,)*	LATHAM; Index, p. 345.
Merula cærulea,	BRISSON.
Petrocossyphus cyaneus,	BOIE. BONAPARTE.
" "	LOCHE; Cat. des Oiseaux Observés en Algéria.
Merle de Roche bleu.	OF THE FRENCH.
Blaue Steindrossel,	OF THE GERMANS.

Specific Characters.—The two middle feathers of the tail longer than the rest. Ground of the plumage blue or bluish. Length eight inches and a half.

Temminck placed the two European Rock Thrushes in what he called the *Saxicoles*—the second division or section of his genus *Turdus*—in consequence of their affinity to the Wheatears and Stonechats. They differ, however, from these latter in having the beak of the true Thrushes. On the other hand they are more solitary in their habits, they never migrate in flocks, and, although not exclusively insectivorous, they are much more so than the Thrushes, properly so called. In the present notice, therefore, I shall follow the example of Gould, Keyserling and Blasius, and Degland, and place the Blue Thrush in the genus *Petrocincla* of Vigors, with which family, as observed by Mr. Gould, it is evidently the connecting link. Prince Bonaparte has adopted the arrangement of Boie, who formed a separate genus, *Petrocossyphus*, for this bird, under which name it is alluded to by Captain Loche, as inhabiting the highest regions of Algeria.

The Blue Thrush inhabits the South of France, Spain, Sardinia, the Levant, and Italy. It is also found in the Morea; it is abundant in the valleys of Piedmont, less common in Switzerland and the Tyrol, still rarer in the Vosges, and abundant in the Appenines. It is spread over Greece, and ranges, according to Brehm, in parts of Asia, and the northern parts of Africa.

In its habits this bird is solitary, rarely perching on trees. It is found among retired ruins and wild unfrequented rocks and caverns, where, seated upon the highest point it can find, it sends forth its sweet,

melancholy, and plaintive note, giving an additional charm to the picturesque and beautiful scenery it frequents. It is a shy bird. It builds in the crevices of rocks, on church towers, ruins of mountain castles, and other high buildings. Its nest is of considerable size, formed of grass and straw, like a shallow bowl, and bound together with bents and fibres of roots.

In the beginning of May it lays five oval shining greenish blue eggs, having upon them faint spots of violet grey, over which are reddish or red brown markings. Some are also unspotted. They differ from *P. saxatilis* in being larger, of a paler colour, and in the much clearer spot markings.—Brehm, in Bädeker's European Eggs.

Count Von der Mühle, in his "Grecian Ornithology," remarks of this bird:—"It is very plentiful on the rocky hills of the Morea, and in the islands. In its habits and song it has a great resemblance to the Stonechats. In summer it frequents steep rocky places, but in the latter part of autumn it comes plentifully into the towns, where it may be observed on the topmost ridges of the houses, singing and looking out for food. It is wary, and carefully avoids all traps. The nest is very difficult to find. I once was shewn one built on the *Cratægus pyracantha*, or, as it is commonly called, 'Moses in the Burning Bush.' The nest was built simply of grass, and the young were brought up, tamed, and sold in Turkey."

In plumage the male and female differ considerably. The adult male has the whole of the upper surface of a deep greyish blue, many of the feathers margined with grey. Wings and tail black, with the wing coverts clear, and the tail quills bordered with obscure blue. The under parts light blue, with obscure narrow

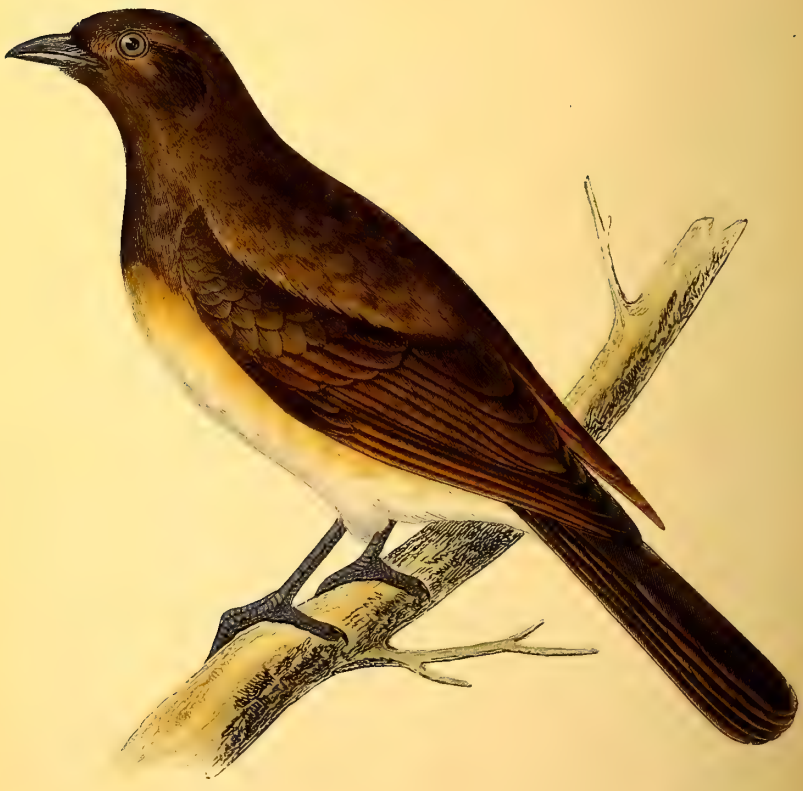
bars of brown edged with white on the chest and abdomen; beak and tarsi black.

The adult female has the whole upper parts bluish brown, with the feathers bordered with ash-colour. Wings and tail blackish brown, each feather edged with bluish ash; on the crop and neck large reddish spots; the other under parts streaked and variegated with a bluish tint, ash-colour, or brown.

The young have the upper and under parts of the body of an ashy brown, sprinkled with small whitish spots; the back and neck tinted with a bluish hue; wings and tail blackish brown.

After the first moult and when a year old, according to Degland, the males have a plumage of a less vivid blue, with black and bluish narrow crescents placed irregularly on the inferior parts of the body; sometimes also some are found on the upper parts, but they are less apparent, and have a reddish tint.

Figured by Buffon, Pl. enl., 250, as Merle solitaire femelle d'Italie, and as Solitaire de Manille, Pl. enl., 564, f. 2, and as Le Merle Bleu, p. 355, t. 24; Edwards, pl. 18; Temminck and Laugier, Atlas; Vieilott, Faun. France, pl. 70 and 71; Roux, Ornith. Prov., pl. 173 and 174, (male and female;) Gould, B. of E.; Bouteil, Ornith. du Dauph., pl. 21.



INSECTIVORÆ.

Family TURDIDÆ.

Genus Ixos. *(Temminck.)*

Generic Characters.—Beak shorter than the head, compressed, bent from its base, curved and slightly hollowed out at the tip, with stiff hairs at the base. Nostrils basal, lateral, ovoid, and partly closed by a naked membrane. Feet short and feeble; tarsi shorter than the middle toe; the external toe united at the base; claws short and slender. Wings short and rounded; the first quill feather short, the second, third, and fourth, each longer than the last; fourth, fifth, and sixth longest.

DUSKY IXOS.

Ixos obscurus.

Ixos obscurus,	Temminck, Manual, App. to Third Part, 2nd. Edit., 1840.
" "	Schlegel. Degland.
" *barbatus,*	Bonaparte. Captain Loche.
Hæmatornis lugubris,	Lesson; Synops, 1839.
Turdoïde obscur,	Of the French.
Dunkle Halb-drossel,	Of the Germans.

Specific Characters.—Wings with the bastard quill long; first quill shorter than sixth. General tint brown above, ash-colour below. Length about eight inches.

This bird was introduced into the European fauna by Temminck in 1840, in the Appendix to the last edition of his work. I shall quote his remarks about the family and description of the species entire:—

"This genus is new to the ornithology of Europe; many representatives of it exist in Africa and the islands of the Indian Archipelago, where the species of the genus are numerous. M. Muller, one of our Indian travelling naturalists, informs me that it is one of the sedentary birds of Java. Some species we found inhabiting the mountainous countries, and one of them at an elevation of eight thousand feet; others were found on the plains, even in the neighbourhood of inhabited places. Their call resembles somewhat that of the Chaffinch.

They are generally found in pairs, or collected together in families—rarely in a numerous flock. They generally frequent trees or shrubs bearing fruit or berries, which are almost their only food. They may often be seen upon the ground seeking for those fruits which have fallen; but they rarely feed on caterpillars or other insects, so that it must be admitted they are essentially fructivorous, in which they differ from the Thrushes."

The Dusky Ixos is found commonly in Andalusia, and it inhabits the western parts of North Africa. I am not able to give any authentic account of its habits or propagation.

M. Temminck further remarks:—"This new species resembles very closely, both in size and form, the *Ixos Plebeius* of Western Africa, of which there is a plate in the Atlas of Roupell's "Travels in Egypt," but the colour of the plumage is sufficiently different to distinguish the two species. Our species, though it

differs in the colours of the plumage, is very like the one we have figured under the name of *Ixos Vaillantii* in the "Pl. Color.," or the *Merle cul-jaune du Cap* of Buffon, "Pl. Enl.," 317, which is the *Brunoir* of Vaillant, "Ois. d'Afr.," pl. 106, f. 1. It resembles also in all these characters many of the species of the same genus scattered over the Isles of the Asiatic Archipelago."

The adult male and female have the top of the head, cheeks, and throat, dull brown; nape, mantle, back, and rump, a dull earthy brown; the whole of the wing same colour, but rather more shining. Chest and sides a clear brown; middle of the belly whitish brown; abdomen and upper tail coverts dull white; tail unicolorous blackish brown; beak and feet black.

With this bird I complete the description of the Thrushes and their allies. The two Water Ouzels admitted by some authors, namely, *Cinclus Pallasii* and *C. melanogaster*, would, according to the arrangement of Temminck, follow next; but there is, I think, no doubt that the last is a variety of *C. aquaticus*, a well-known British bird, while the former is only an inhabitant of Siberia, and that proof of its having been found in the Crimea, as stated by Temminck, is wanting. They are excluded by Schlegel and Degland, and therefore I shall follow their example.

I BRING here my first volume to a close, a number or so sooner than I intended, to avoid breaking in upon the next group, the *Sylviadæ*, which will occupy the first six or seven numbers of Volume II. In dealing with this family, I shall follow the arrangement

of Count Von der Mühle, and avail myself largely of the information derived from his excellent "Monographia der Europäischen Sylvien."

I shall of course in the progress of the work be thankful for any information, which those possessing it may wish to impart, so as to render it as perfect as possible, and assist in carrying out the great object for which it was undertaken,—that of diffusing widely, sound information upon a most interesting part of natural history. I shall hereafter in its proper place have more to say upon this subject, and many most grateful acknowledgments to offer.

END OF VOL. I.

B. FAWCETT, ENGRAVER AND PRINTER, EAST LODGE, DRIFFIELD.

SMITHSONIAN INSTITUTION LIBRARIES

SMITHSONIAN INSTITUTION LIBRARIES

SMITHSONIAN INSTITUTION LIBRARIES
3 9088 00084 0918